


STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING						FORM 3 AMENDED REPORT <input type="checkbox"/>				
<b>APPLICATION FOR PERMIT TO DRILL</b>						1. WELL NAME and NUMBER SEPCO STATE 30-23 #1-16H				
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT WILDCAT				
4. TYPE OF WELL Oil Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME				
6. NAME OF OPERATOR SOUTHWESTERN ENERGY PRODUCTION COMPANY						7. OPERATOR PHONE 281 618-7414				
8. ADDRESS OF OPERATOR 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032						9. OPERATOR E-MAIL Amy_Johnson@swn.com				
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) ML51650			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>				
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')				
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')				
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input checked="" type="checkbox"/>				
20. LOCATION OF WELL	FOOTAGES		QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN			
LOCATION AT SURFACE	796 FSL 412 FEL		SESE	16	30.0 S	23.0 E	S			
Top of Uppermost Producing Zone	1207 FSL 812 FEL		SWSW	16	30.0 S	23.0 E	S			
At Total Depth	660 FNL 1130 FWL		NWNW	16	30.0 S	23.0 E	S			
21. COUNTY SAN JUAN			22. DISTANCE TO NEAREST LEASE LINE (Feet) 412		23. NUMBER OF ACRES IN DRILLING UNIT 640					
			25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 26670		26. PROPOSED DEPTH MD: 12807 TVD: 7705					
27. ELEVATION - GROUND LEVEL 5877			28. BOND NUMBER 09086761		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 1002					
<b>Hole, Casing, and Cement Information</b>										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	17.5	13.375	0 - 1640	54.5	J-55 ST&C	8.6	Class G	1900	1.2	15.6
I1	12.25	9.625	0 - 5340	40.0	HCP-110 LT&C	8.6	Class G	880	1.8	12.82
							Class G	350	1.18	15.6
I2	8.5	7	0 - 8052	29.0	HCP-110 LT&C	14.5	Class G	285	1.66	13.2
							Class G	170	1.07	16.4
L1	6	4.5	6852 - 12807	11.6	P-110 LT&C	14.5	No Used	0	0.0	0.0
							No Used	0	0.0	0.0
<b>ATTACHMENTS</b>										
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>										
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER					<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN					
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)					<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER					
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)					<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP					
NAME Amy Johnson			TITLE Regulatory Supervisor			PHONE 281 618-7414				
SIGNATURE			DATE 12/13/2012			EMAIL Amy_Johnson@swn.com				
API NUMBER ASSIGNED 43037500400000			APPROVAL  Permit Manager							

**SEPCO  
WELL PLAN  
STATE 30-23 #1-16H**

**SURFACE LOCATION:**

796 ft FSL & 412 ft FEL  
SESE Section 16 T30S R23E  
San Juan County, Utah

**BOTTOMHOLE LOCATION:**

660 ft FNL & 1130 ft FWL  
NWNW Section 16 T30S R23E  
San Juan County, Utah

**GENERAL**

- This well and data generated by drilling, evaluation and testing of this well are to be considered and held CONFIDENTIAL.
- The vertical section above the Gothic will be drilled using Air/Mist and air hammer. If excessive water production is encountered, the drilling operations will switch progressively from air/mist to foam to water.
- Pilot hole drilled into the Leadville  $\pm 100$  ft.
- Following evaluation of the pilot hole, the well will be plugged back and kicked off to drill a curve at  $10^\circ/100$  ft on a Northwesterly azimuth and landed approximately in the middle of the Cane Creek B section at a TVD (ref GL) of 7705 ft.
- The lateral will be drilled to 4760 ft or the maximum allowed by the section limits.

GL = 5877 ft

Surface formation = Carmel

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS**

FORMATION	TVD SS	TVD ref GL	Lithology	Potential	Hazard
Carmel	5877'	Surface/0'	SS, SltSt		
Navajo	5867'	10'	SS	Water	
Kayenta	5567'	310'	SS	Water	
Wingate	5367'	510'	SS	Water	
Chinle	5067'	810'	SltSt, Mudst		
Paradox	887'	4990'	Sh		
Gothic	592'	5285'	Sh	Oil, gas	
Salt (Paradox)	527'	5350'	Salt, Ha		
Salt 6	332'	5545'	Salt, potash, Ha	Potash	
Salt 13	-488'	6365'	Salt, potash, Ha	Poss. potash	
Clastic 13	-608'	6485'	Do, Sh, Ls, Anhy		
Salt 16	-798'	6675'	Salt, potash, Ha	Poss. potash	
Salt 19	-1343	7220'	Salt, potash, Ha	Poss. potash	
Clastic 19	-1563	7440'	Do, Sh, Ls, Anhy	Oil, gas	
Salt 20	-1593	7470'	Salt, potash, Ha	Poss. Potash	
Cane Creek	-1803'	7680'	Do, Sh, Ls, Anhy	Oil, gas, water	
Cane Creek "B"	-1828'	7705'	Do, Sh, Ls, Anhy	Oil, gas, water	
Leadville	-2528'	8405'	Ls	Oil, gas, water	
TD (Pilot Hole)	-2628'	8505'			

**SEPCO STATE 30-23 #1-16H****2. PRESSURE CONTROL EQUIPMENT****a. Type:**

Interval	Equipment
0' – 1,640'	20" Diverter
1,640' – 5,340'	13 $\frac{3}{8}$ " x 5,000 psi WP rotating head 13 $\frac{3}{8}$ " x 5,000 psi WP annular BOP 13 $\frac{3}{8}$ " x 5,000 psi WP double-gate BOP with blind and pipe rams.
5,340' – 8,525'	11" x 5,000 psi WP rotating head 11" x 5,000 psi WP annular BOP, 11" x 10,000 psi WP double-gate BOP with blind and pipe rams 11" x 10,000 psi WP single gate BOP with pipe rams.

**b. Testing Procedure:**

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and at thirty (30) day intervals.
4. Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

**c. Choke Manifold Equipment:**

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration.

**d. Accumulator:**

Accumulator will have sufficient capacity to open a hydraulically controlled choke line valve, close all rams plus annular preventer, and retain a minimum of 200 psi above pre-charge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

**e. Miscellaneous Information:**

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole. A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the well bore and any existing production facilities.

**SEPCO STATE 30-23 #1-16H****3. PROPOSED CASING AND CEMENTING PROGRAM**

Casing Program: All new

Hole Size	Casing Size	Wt/Foot	Grade	Joint	Depth Set (MD-RKB)
24"	20"	Conductor	Line Pipe		0-60'
17.5"	13 $\frac{3}{8}$ "	54.50#	J-55	STC	0'- 1640'
12.25"	9 $\frac{5}{8}$ "	40#	HC P-110	LT&C	0-5340'
8.5"	7"	29#	HCP-110	LT&C	0-8052'
6"	4 $\frac{1}{2}$ "	11.6#	P-110	LT&C	6852'-12,807'

**4. Cementing Program**

All slurries will be tested for compatibility, compression strengths, and pumping times based on actual job conditions

**Surface:** TOC at Surface (100 % excess)

Tail: 2254 ft<sup>3</sup> 1900 sx Premium Cement with 2% CaCl<sub>2</sub>

**1<sup>st</sup> Intermediate:** Top of Tail – 4400 ft Top of Lead – 620 ft Excess – 40%

Lead: 1584 ft<sup>3</sup> 880 sx Premium Cement with 6% D35 + 26 #/sx D20

Tail: 413 ft<sup>3</sup> 350 sx Premium Cement

Cement Properties	Lead	Tail
Slurry Weight (ppg)	12.82	15.60
Slurry Yield (ft <sup>3</sup> /sx)	1.80	1.18
Mix Water (gal/sx)	9.629	5.263

**2<sup>st</sup> Intermediate:** Top of Tail – 7052 ft Top of Lead – 4300 ft Excess – 40%

Lead: 473 ft<sup>3</sup> 285 sx Premium Cement with 26#/D35 + 6% D20 + 0.2% D800 + 0.1% D130

Tail: 182 ft<sup>3</sup> 170 sx Premium Cement with 0.2% D800 + 0.2% D065

Cement Properties	Lead	Tail
Slurry Weight (ppg)	13.20	16.40
Slurry Yield (ft <sup>3</sup> /sx)	1.66	1.07
Mix Water (gal/sx)	8.852	4.365



**SEPCO STATE 30-23 #1-16H****5. MUD PROGRAM**

Depth (MD)	Mud System	MW (ppg)	Fluid Loss
0-1,640'	Air/Mist	NA	NA
1,640' – 5,340'	Air / Mist/Aerated Water	NA	NA
5,340' – 8,052'	OBM	12.5 -14.5	5.0 (HPHT)
8,052' – 12,807'	OBM	12.5-14.5	5.0 (HPHT)

**6. EVALUATION PROGRAM**

Cores: None planned

DST: None planned

Mud logger: From Surface Shoe to TD

Samples: 30 ft Samples from Surface to 5340 ft MD  
 10 ft Samples from 5340 ft to TD

Open Hole Logging Program:

Run #1: 5340 ft – 1640 ft

GR-SP-DIL-SFL-ML

GR-CALI-FDC/CNL

FMI/Dipmeter

Sonic (dipole)

Run #2: 8525 ft – 5340 ft

GR-SP-DIL-SFL-ML

GR-CALI-FDC/CNL

OBMI/UBMI

Sonic (dipole)

VSP or Check shot survey

**7. ABNORMAL CONDITIONS**Bottomhole temperatures are estimated at  $\pm 145^{\circ}\text{F}$ .

The maximum anticipated bottomhole pressure is expected to be 5900 psi at TD (7705 ft TVD-RKB).

H<sub>2</sub>S is not expected.**8. ANTICIPATED STARTING DATES AND NOTIFICATIONS OF OPERATIONS**

Location Start up: Upon approval

Spud: Upon approval

Duration: 50 – 75 days

**T30S, R23E, S.L.B.&M.****SOUTHWESTERN ENERGY PRODUCTION COMPANY**

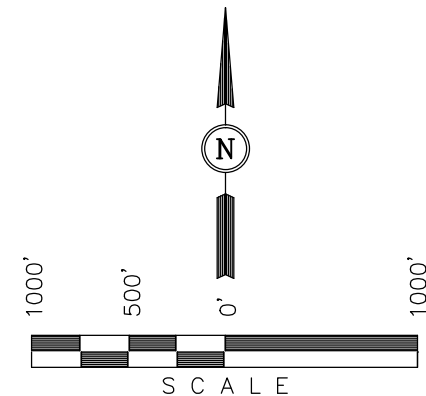
Well location, SEPCO STATE 30-23 #1-16H,  
located as shown in the SE 1/4 SE 1/4 of  
Section 16, T30S, R23E, S.L.B.&M., San Juan  
County, Utah.

**BASIS OF ELEVATION**

BENCH MARK (C21) LOCATED IN THE W 1/2 OF SECTION 35,  
T30S, R23E, S.L.B.&M. TAKEN FROM THE SANDSTONE DRAW  
QUADRANGLE, UTAH, SAN JUAN COUNTY, 7.5 MINUTE QUAD  
(TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES  
DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID  
ELEVATION OBTAINED FROM THE NGS DATA SHEET NAVD88  
IS 6081 FEET.

**BASIS OF BEARINGS**

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

**CERTIFICATE**

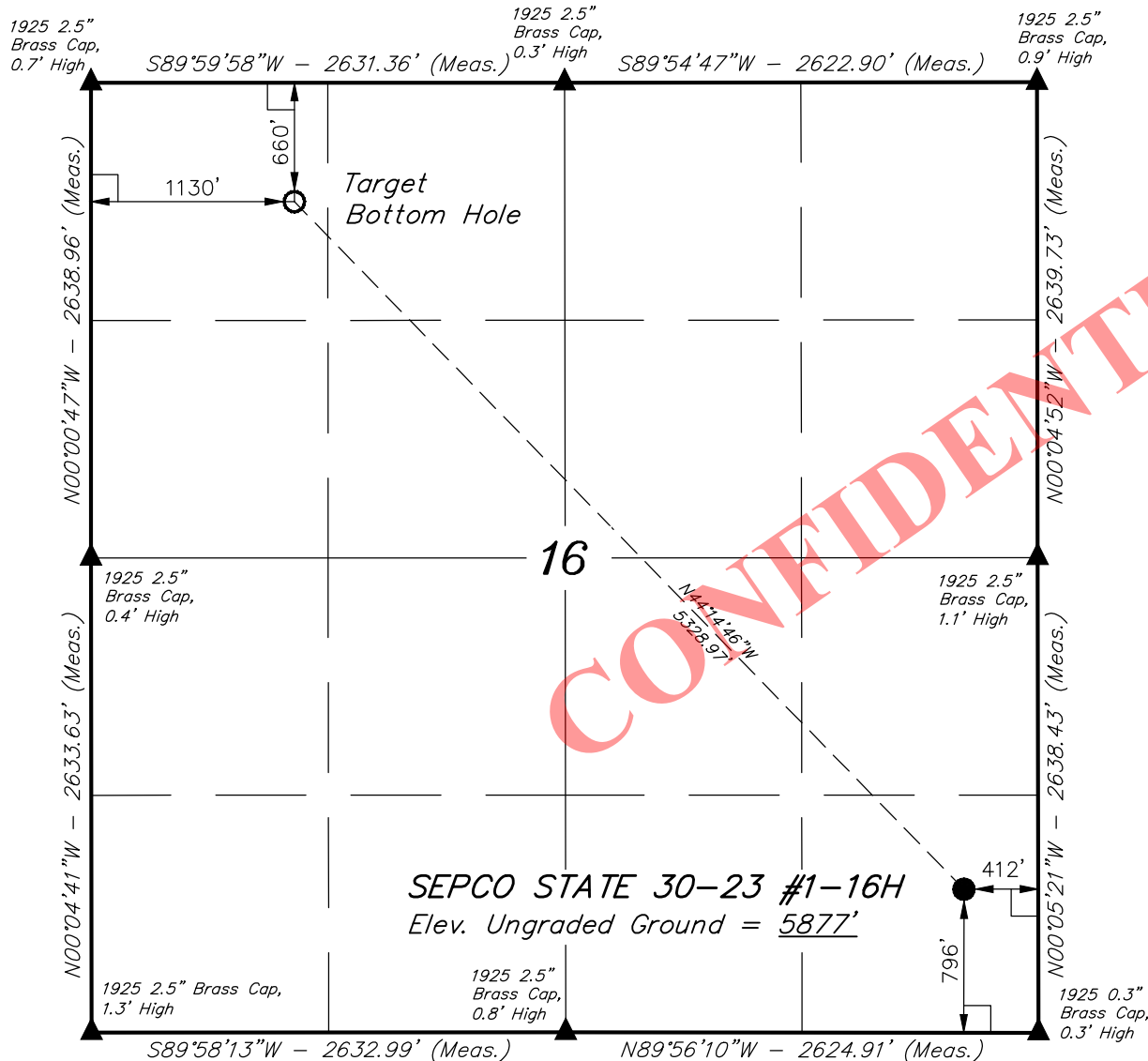
THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

REV: 10-19-12 Z.L.

**UINTAH ENGINEERING & LAND SURVEYING**  
**85 SOUTH 200 EAST - VERNAL, UTAH 84078**  
**(435) 789-1017**

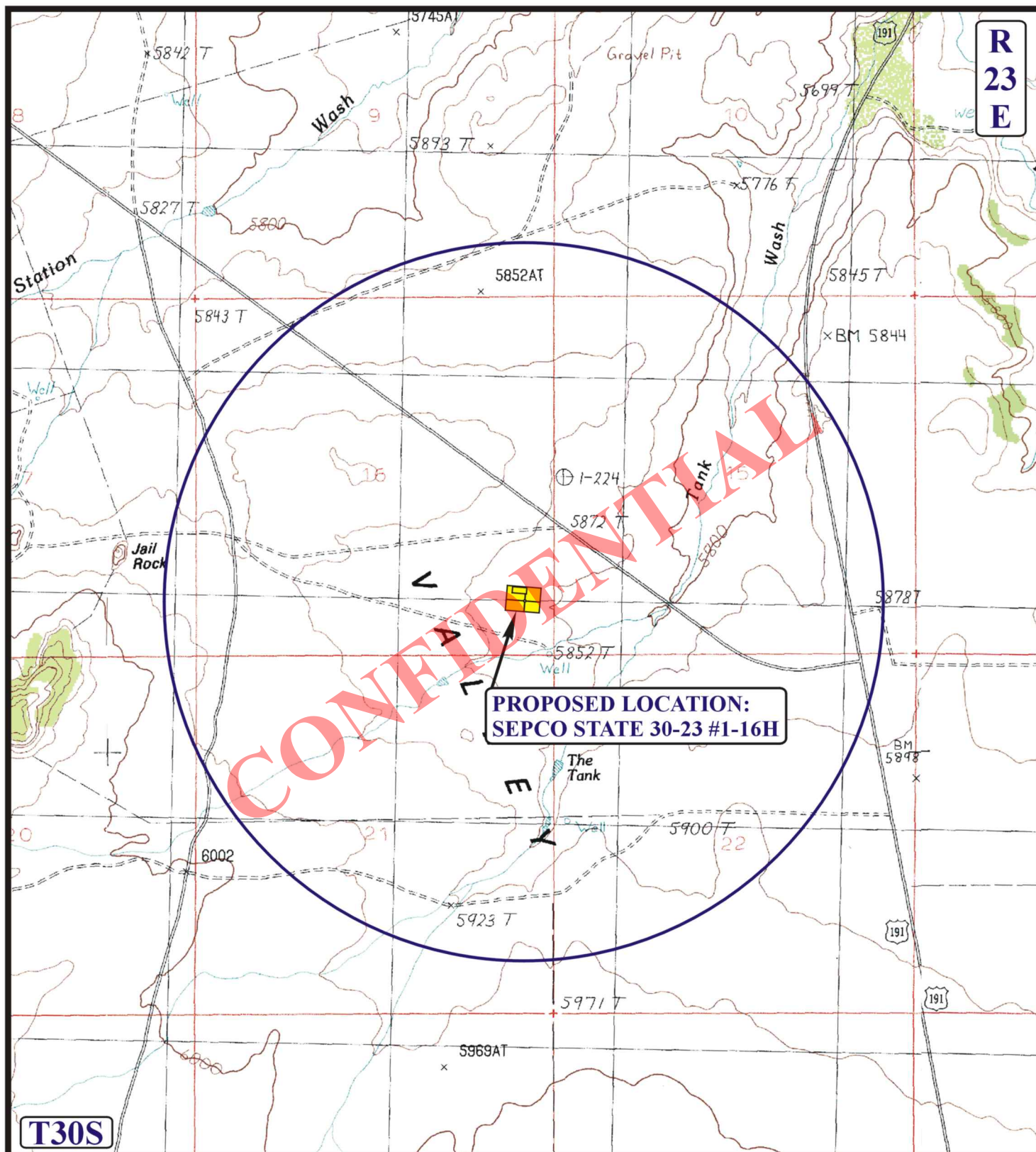
SCALE 1" = 1000'	DATE SURVEYED: 10-02-12	DATE DRAWN: 10-04-12
PARTY B.H. R.H. S.F.	REFERENCES G.L.O. PLAT	
WEATHER HOT	FILE	SOUTHWESTERN ENERGY PRODUCTION COMPANY

**LEGEND:**

- └─┘ = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.

NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (SURFACE LOCATION)
LATITUDE = 38°10'59.41" (38.183169)	LATITUDE = 38°10'21.70" (38.172694)
LONGITUDE = 109°24'32.20" (109.408944)	LONGITUDE = 109°23'45.63" (109.396008)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (SURFACE LOCATION)
LATITUDE = 38°10'59.45" (38.183181)	LATITUDE = 38°10'21.74" (38.172706)
LONGITUDE = 109°24'29.79" (109.408275)	LONGITUDE = 109°23'43.22" (102.395339)

**RECEIVED: December 12, 2012**



# LEGEND:

- ◊ DISPOSAL WELLS
- PRODUCING WELLS
- SHUT IN WELLS
- ABANDONED WELLS
- TEMPORARILY ABANDONED



**Uintah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813

**SOUTHWESTERN ENERGY PRODUCTION COMPANY**

**SEPCO STATE 30-23 #1-16H**  
**SECTION 16, T30S, R23E, S.L.B.&M.**  
**796' FSL 412' FEL**

**TOPOGRAPHIC**  
**MAP**

**10 03 12**  
 MONTH DAY YEAR

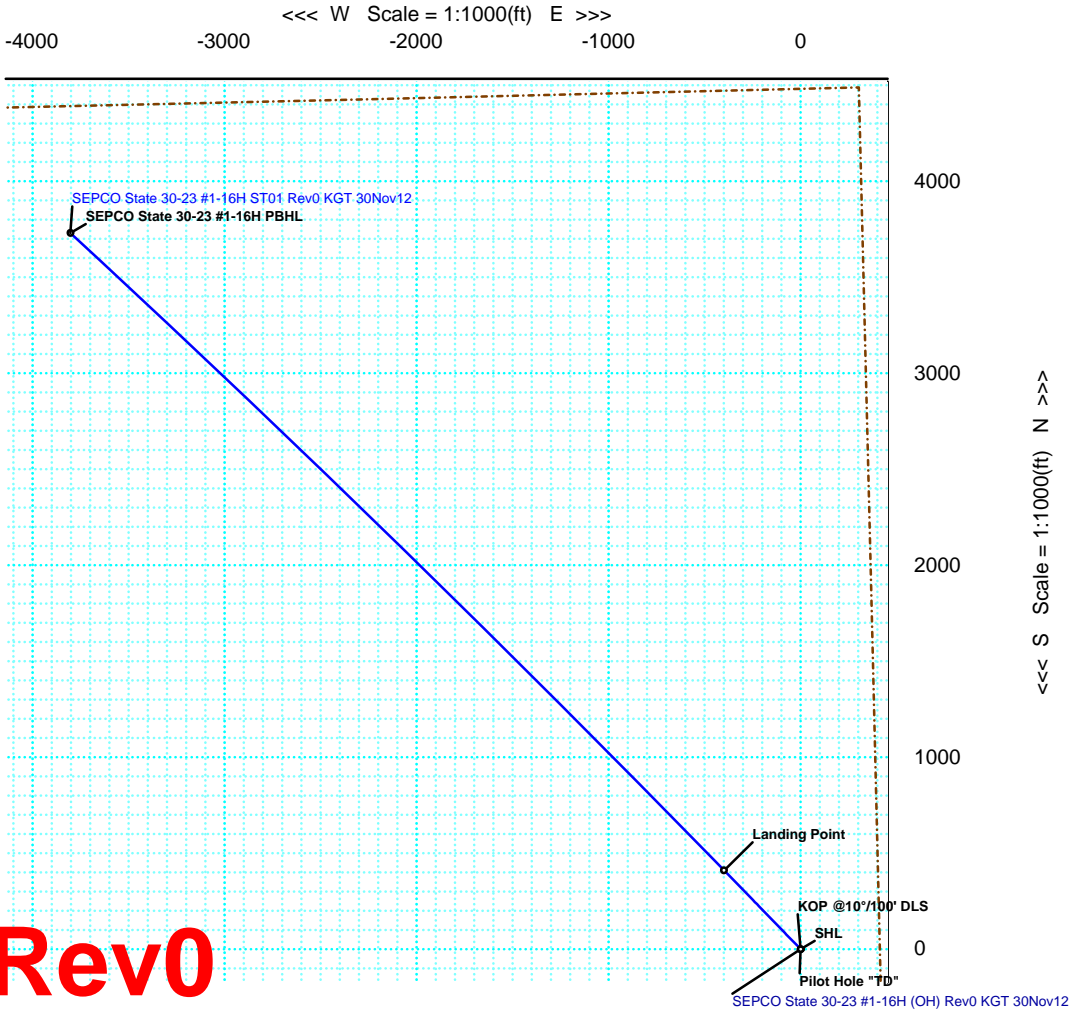
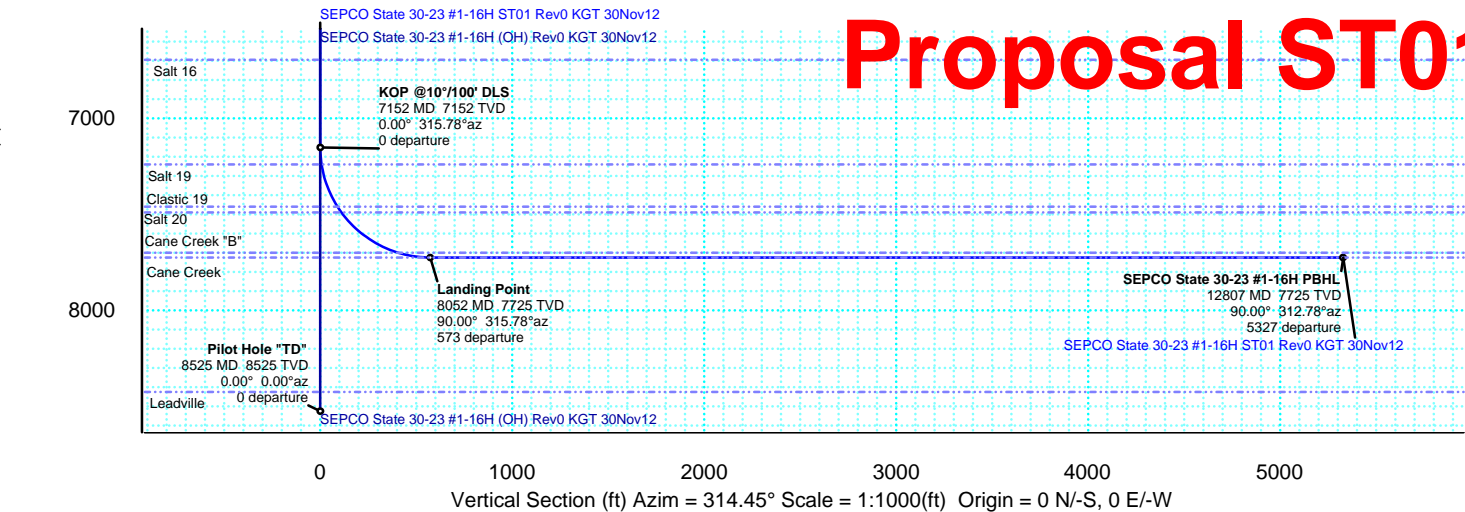
SCALE: 1" = 2000' DRAWN BY: C.I. REVISED: 10-19-12





WELL State 30-23 #1-16H			FIELD UT - San Juan County (NAD 83)			STRUCTURE SEPCO State 30-23 #1-16H		
Magnetic Parameters Model: BGGM 2012 Dip: 64.318° Mag Dec: 10.611°			Surface Location Lat: N 38 10 21.700 Lon: W 109 23 45.630 Northing: 10397686.39 ftUS Easting: 2245219.46 ftUS Grid Conv: 1.289° Scale Fact: 0.99997424			Miscellaneous Slot: State 30-23 #1-16H Plan: ST01 Rev0 KGT 30Nov12 TVD Ref: RKB(5897ft above MSL) Srvy Date: November 30, 2012		
Date: November 30, 2012 FS: 51124.1nT								

Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+) / S(-)	E(+) / W(-)	DLS
SHL	0.00	0.00	315.78	0.00	0.00	0.00	0.00	
Carmel	20.00	0.00	315.78	20.00	0.00	0.00	0.00	0.00
Navajo	30.00	0.00	315.78	30.00	0.00	0.00	0.00	0.00
Kayenta	330.00	0.00	315.78	330.00	0.00	0.00	0.00	0.00
Wingate	530.00	0.00	315.78	530.00	0.00	0.00	0.00	0.00
Chinle	830.00	0.00	315.78	830.00	0.00	0.00	0.00	0.00
Paradox	5010.00	0.00	315.78	5010.00	0.00	0.00	0.00	0.00
Gothic	5305.00	0.00	315.78	5305.00	0.00	0.00	0.00	0.00
Salt (Paradox)	5370.00	0.00	315.78	5370.00	0.00	0.00	0.00	0.00
Salt 6	5565.00	0.00	315.78	5565.00	0.00	0.00	0.00	0.00
Salt 13	6385.00	0.00	315.78	6385.00	0.00	0.00	0.00	0.00
Clastic 13	6505.00	0.00	315.78	6505.00	0.00	0.00	0.00	0.00
Salt 16	6695.00	0.00	315.78	6695.00	0.00	0.00	0.00	0.00
KOP @10°/100' DLS	7152.00	0.00	315.78	7152.00	0.00	0.00	0.00	0.00
Salt 19	7240.35	8.83	315.78	7240.00	6.80	4.87	-4.74	10.00
Clastic 19	7477.17	32.52	315.78	7460.00	89.79	64.37	-62.64	10.00
Salt 20	7513.51	36.15	315.78	7490.00	110.28	79.06	-76.92	10.00
Cane Creek	7882.18	73.01	315.78	7700.00	405.48	290.70	-282.85	10.00
Cane Creek "B"	8052.07	90.00	315.78	7725.00	572.84	410.68	-399.59	10.00
Landing Point	8052.07	90.00	315.78	7725.00	572.84	410.68	-399.59	10.00
SEPCO State 30-23 #1-16H PBHL	12807.15	90.00	312.78	7725.00	5327.36	3730.35	-3803.32	0.06



Grid North  
Tot Corr (M->G 9.3219°)  
Mag Dec (10.611°)  
Grid Conv (1.289°)



Quality Control  
Date Drawn: November 30, 2012 02:38:45 PM  
Drawn by: Kent Taylor  
Checked by:  
Client OK:





SEPCO State 30-23 #1-16H ST01 Rev0 GEO Interp Report

(Non-Def Plan)

Report Date: November 30, 2012 - 02:37 PM  
Client: SWN  
Field: UT - San Juan County (NAD 83)  
Structure / Slot: SEPCO State 30-23 #1-16H / SEPCO State 30-23 #1-16H  
Well: SEPCO State 30-23 #1-16H  
Borehole: ST 01  
UWI / API#: Unknown / Unknown  
Survey Name: SEPCO State 30-23 #1-16H ST01 Rev0 KGT 30Nov12  
Survey Date: November 30, 2012  
Tort / AHD / DDI / ERD Ratio: 93.001 ° / 5328.079 ft / 5.915 / 0.690  
Coordinate Reference System: NAD83 Utah State Plane, Southern Zone, US Feet  
Location Lat / Long: N 38° 10' 21.70000", W 109° 23' 45.63000"  
Location Grid N/E Y/X: N 10397686.392 ftUS, E 2245219.461 ftUS  
CRS Grid Convergence Angle: 1.2891 °  
Grid Scale Factor: 0.99997424

Survey / DLS Computation: Minimum Curvature / Lubinski  
Vertical Section Azimuth: 314.445 ° (Grid North)  
Vertical Section Origin: 0.000 ft, 0.000 ft  
TVD Reference Datum: RKB  
TVD Reference Elevation: 5897.000 ft above MSL  
Seabed / Ground Elevation: 5877.000 ft above MSL  
Magnetic Declination: 10.611 °  
Total Gravity Field Strength: 999.4427 mgn (9.8 based)  
Total Magnetic Field Strength: 51124.136 nT  
Magnetic Dip Angle: 64.318 °  
Declination Date: November 30, 2012  
Magnetic Declination Model: BGGM 2012  
North Reference: Grid North  
Grid Convergence Used: 1.2891 °  
Total Corr Mag North->Grid North: 9.3219 °

Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	TVDSS (ft)	Closure (ft)	Closure Azimuth (°)	TF (°)	Northing (ftUS)	Easting (ftUS)
SHL	0.00	0.00	315.78	0.00	0.00	0.00	0.00	N/A	N/A	N/A	-5897.00	0.00	0.00	315.78M	10397686.39	2245219.46
Carmel	20.00	0.00	315.78	20.00	0.00	0.00	0.00	0.00	0.00	0.00	-5877.00	0.00	0.00	315.78M	10397686.39	2245219.46
Navajo	30.00	0.00	315.78	30.00	0.00	0.00	0.00	0.00	0.00	0.00	-5867.00	0.00	0.00	315.78M	10397686.39	2245219.46
Kayenta	330.00	0.00	315.78	330.00	0.00	0.00	0.00	0.00	0.00	0.00	-5567.00	0.00	0.00	315.78M	10397686.39	2245219.46
Wingate	530.00	0.00	315.78	530.00	0.00	0.00	0.00	0.00	0.00	0.00	-5367.00	0.00	0.00	315.78M	10397686.39	2245219.46
Chinle	830.00	0.00	315.78	830.00	0.00	0.00	0.00	0.00	0.00	0.00	-5067.00	0.00	0.00	315.78M	10397686.39	2245219.46
Paradox	5010.00	0.00	315.78	5010.00	0.00	0.00	0.00	0.00	0.00	0.00	-887.00	0.00	0.00	315.78M	10397686.39	2245219.46
Gothic	5305.00	0.00	315.78	5305.00	0.00	0.00	0.00	0.00	0.00	0.00	-592.00	0.00	0.00	315.78M	10397686.39	2245219.46
Salt (Paradox)	5370.00	0.00	315.78	5370.00	0.00	0.00	0.00	0.00	0.00	0.00	-527.00	0.00	0.00	315.78M	10397686.39	2245219.46
Salt 6	5565.00	0.00	315.78	5565.00	0.00	0.00	0.00	0.00	0.00	0.00	-332.00	0.00	0.00	315.78M	10397686.39	2245219.46
Salt 13	6385.00	0.00	315.78	6385.00	0.00	0.00	0.00	0.00	0.00	0.00	488.00	0.00	0.00	315.78M	10397686.39	2245219.46
Clastic 13	6505.00	0.00	315.78	6505.00	0.00	0.00	0.00	0.00	0.00	0.00	608.00	0.00	0.00	315.78M	10397686.39	2245219.46
Salt 16	6695.00	0.00	315.78	6695.00	0.00	0.00	0.00	0.00	0.00	0.00	798.00	0.00	0.00	315.78M	10397686.39	2245219.46
KOP @10°/100'	7152.00	0.00	315.78	7152.00	0.00	0.00	0.00	0.00	0.00	0.00	1255.00	0.00	0.00	315.78M	10397686.39	2245219.46
DLS	7200.00	4.80	315.78	7199.94	2.01	1.44	-1.40	10.00	10.00	0.00	1302.94	2.01	315.78	315.78M	10397687.83	2245218.06
Salt 19	7240.35	8.83	315.78	7240.00	6.80	4.87	-4.74	10.00	10.00	0.00	1343.00	6.80	315.78	HS	10397691.26	2245214.72
	7300.00	14.80	315.78	7298.36	19.00	13.62	-13.26	10.00	10.00	0.00	1401.36	19.01	315.78	HS	10397700.01	2245206.21
	7400.00	24.80	315.78	7392.33	52.82	37.87	-36.85	10.00	10.00	0.00	1495.33	52.84	315.78	HS	10397724.26	2245182.62
Clastic 19	7477.17	32.52	315.78	7460.00	89.79	64.37	-62.64	10.00	10.00	0.00	1563.00	89.82	315.78	HS	10397750.76	2245156.83
	7500.00	34.80	315.78	7479.00	102.44	73.44	-71.46	10.00	10.00	0.00	1582.00	102.47	315.78	HS	10397759.83	2245148.01
Salt 20	7513.51	36.15	315.78	7490.00	110.28	79.06	-76.92	10.00	10.00	0.00	1593.00	110.31	315.78	HS	10397765.45	2245142.54
	7600.00	44.80	315.78	7555.73	166.35	119.26	-116.04	10.00	10.00	0.00	1658.73	166.39	315.78	HS	10397805.65	2245103.43
	7700.00	54.80	315.78	7620.20	242.61	173.93	-169.23	10.00	10.00	0.00	1723.20	242.67	315.78	HS	10397860.31	2245050.24
	7800.00	64.80	315.78	7670.45	328.90	235.79	-229.42	10.00	10.00	0.00	1773.45	328.99	315.78	HS	10397922.17	2244990.04
Cane Creek	7882.18	73.01	315.78	7700.00	405.48	290.70	-282.85	10.00	10.00	0.00	1803.00	405.59	315.78	HS	10397977.08	2244936.62
	7900.00	74.79	315.78	7704.94	422.60	302.96	-294.78	10.00	10.00	0.00	1807.94	422.71	315.78	HS	10397989.35	2244924.68
	8000.00	84.79	315.78	7722.64	520.86	373.41	-363.33	10.00	10.00	0.00	1825.64	521.01	315.78	HS	10398059.79	2244856.14
Cane Creek "B" Landing Point	8052.07	90.00	315.78	7725.00	572.84	410.68	-399.59	10.00	10.00	0.00	1828.00	573.00	315.78	90L	10398097.06	2244819.88
	8100.00	90.00	315.75	7725.00	620.76	445.02	-433.03	0.06	0.00	-0.06	1828.00	620.93	315.78	90L	10398131.40	2244786.45
	8200.00	90.00	315.69	7725.00	720.74	516.62	-502.84	0.06	0.00	-0.06	1828.00	720.93	315.77	90L	10398203.00	2244716.63
	8300.00	90.00	315.63	7725.00	820.72	588.14	-572.73	0.06	0.00	-0.06	1828.00	820.93	315.76	90L	10398274.52	2244646.74
	8400.00	90.00	315.56	7725.00	920.70	659.58	-642.70	0.06	0.00	-0.06	1828.00	920.93	315.74	90L	10398345.96	2244576.77
	8500.00	90.00	315.50	7725.00	1020.68	730.95	-712.75	0.06	0.00	-0.06	1828.00	1020.93	315.72	90L	10398417.32	2244506.73
	8600.00	90.00	315.44	7725.00	1120.66	802.24	-782.88	0.06	0.00	-0.06	1828.00	1120.93	315.70	90L	10398488.61	2244436.60
	8700.00	90.00	315.38	7725.00	1220.65	873.45	-853.09	0.06	0.00	-0.06	1828.00	1220.93	315.68	90L	10398559.81	2244366.39
	8800.00	90.00	315.31	7725.00	1320.64	944.58	-923.38	0.06	0.00	-0.06	1828.00	1320.93	315.65	90L	10398630.95	2244296.11
	8900.00	90.00	315.25	7725.00	1420.63	1015.64	-993.74	0.06	0.00	-0.06	1828.00	1420.93	315.62	90L	10398702.00	2244225.75

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)	TVDSS (ft)	Closure (ft)	Closure Azimuth (°)	TF (°)	Northing (ftUS)	Easting (ftUS)
	9000.00	90.00	315.19	7725.00	1520.62	1086.61	-1064.18	0.06	0.00	-0.06	1828.00	1520.92	315.60	90L	10398772.98	2244155.31
	9100.00	90.00	315.12	7725.00	1620.61	1157.52	-1134.70	0.06	0.00	-0.06	1828.00	1620.92	315.57	90L	10398843.88	2244084.79
	9200.00	90.00	315.06	7725.00	1720.60	1228.34	-1205.30	0.06	0.00	-0.06	1828.00	1720.92	315.54	90L	10398914.70	2244014.20
	9300.00	90.00	315.00	7725.00	1820.60	1299.08	-1275.97	0.06	0.00	-0.06	1828.00	1820.91	315.51	90L	10398985.44	2243943.52
	9400.00	90.00	314.93	7725.00	1920.59	1369.75	-1346.73	0.06	0.00	-0.06	1828.00	1920.91	315.49	90L	10399056.10	2243872.77
	9500.00	90.00	314.87	7725.00	2020.59	1440.34	-1417.56	0.06	0.00	-0.06	1828.00	2020.91	315.46	90L	10399126.69	2243801.94
	9600.00	90.00	314.81	7725.00	2120.59	1510.85	-1488.47	0.06	0.00	-0.06	1828.00	2120.90	315.43	90L	10399197.20	2243731.03
	9700.00	90.00	314.74	7725.00	2220.59	1581.28	-1559.46	0.06	0.00	-0.06	1828.00	2220.89	315.40	90L	10399267.63	2243660.05
	9800.00	90.00	314.68	7725.00	2320.59	1651.64	-1630.52	0.06	0.00	-0.06	1828.00	2320.89	315.37	90L	10399337.99	2243588.98
	9900.00	90.00	314.62	7725.00	2420.58	1721.92	-1701.66	0.06	0.00	-0.06	1828.00	2420.88	315.34	90L	10399408.26	2243517.84
	10000.00	90.00	314.55	7725.00	2520.58	1792.12	-1772.88	0.06	0.00	-0.06	1828.00	2520.87	315.31	90L	10399478.46	2243446.63
	10100.00	90.00	314.49	7725.00	2620.58	1862.23	-1844.18	0.06	0.00	-0.06	1828.00	2620.86	315.28	90L	10399548.58	2243375.33
	10200.00	90.00	314.43	7725.00	2720.58	1932.28	-1915.55	0.06	0.00	-0.06	1828.00	2720.85	315.25	90L	10399618.61	2243303.96
	10300.00	90.00	314.37	7725.00	2820.58	2002.24	-1987.00	0.06	0.00	-0.06	1828.00	2820.84	315.22	90L	10399688.58	2243232.51
	10400.00	90.00	314.30	7725.00	2920.58	2072.12	-2058.53	0.06	0.00	-0.06	1828.00	2920.83	315.19	90L	10399758.46	2243160.99
	10500.00	90.00	314.24	7725.00	3020.58	2141.93	-2130.14	0.06	0.00	-0.06	1828.00	3020.82	315.16	90L	10399828.26	2243089.38
	10600.00	90.00	314.18	7725.00	3120.58	2211.65	-2201.82	0.06	0.00	-0.06	1828.00	3120.80	315.13	90L	10399897.98	2243017.70
	10700.00	90.00	314.11	7725.00	3220.58	2281.30	-2273.58	0.06	0.00	-0.06	1828.00	3220.79	315.10	90L	10399967.63	2242945.95
	10800.00	90.00	314.05	7725.00	3320.58	2350.87	-2345.41	0.06	0.00	-0.06	1828.00	3320.77	315.07	90L	10400037.20	2242874.11
	10900.00	90.00	313.99	7725.00	3420.58	2420.36	-2417.32	0.06	0.00	-0.06	1828.00	3420.76	315.04	90L	10400106.68	2242802.20
	11000.00	90.00	313.92	7725.00	3520.57	2489.77	-2489.31	0.06	0.00	-0.06	1828.00	3520.74	315.01	90L	10400176.09	2242730.22
	11100.00	90.00	313.86	7725.00	3620.57	2559.10	-2561.38	0.06	0.00	-0.06	1828.00	3620.72	314.97	90L	10400245.42	2242658.16
	11200.00	90.00	313.80	7725.00	3720.56	2628.35	-2633.52	0.06	0.00	-0.06	1828.00	3720.70	314.94	90L	10400314.67	2242586.02
	11300.00	90.00	313.73	7725.00	3820.56	2697.52	-2705.73	0.06	0.00	-0.06	1828.00	3820.68	314.91	90L	10400383.84	2242513.80
	11400.00	90.00	313.67	7725.00	3920.55	2766.61	-2778.03	0.06	0.00	-0.06	1828.00	3920.66	314.88	90L	10400452.93	2242441.51
	11500.00	90.00	313.61	7725.00	4020.54	2835.62	-2850.40	0.06	0.00	-0.06	1828.00	4020.64	314.85	90L	10400521.94	2242369.14
	11600.00	90.00	313.55	7725.00	4120.53	2904.56	-2922.84	0.06	0.00	-0.06	1828.00	4120.61	314.82	90L	10400590.87	2242296.70
	11700.00	90.00	313.48	7725.00	4220.51	2973.41	-2995.36	0.06	0.00	-0.06	1828.00	4220.59	314.79	90L	10400659.72	2242224.18
	11800.00	90.00	313.42	7725.00	4320.50	3042.18	-3067.96	0.06	0.00	-0.06	1828.00	4320.56	314.76	90L	10400728.49	2242151.59
	11900.00	90.00	313.36	7725.00	4420.48	3110.88	-3140.63	0.06	0.00	-0.06	1828.00	4420.53	314.73	90L	10400797.18	2242078.92
	12000.00	90.00	313.29	7725.00	4520.46	3179.49	-3213.38	0.06	0.00	-0.06	1828.00	4520.50	314.70	90L	10400865.79	2242006.17
	12100.00	90.00	313.23	7725.00	4620.44	3248.02	-3286.20	0.06	0.00	-0.06	1828.00	4620.47	314.67	90L	10400934.32	2241933.35
	12200.00	90.00	313.17	7725.00	4720.42	3316.47	-3359.10	0.06	0.00	-0.06	1828.00	4720.44	314.63	90L	10401002.77	2241860.45
	12300.00	90.00	313.10	7725.00	4820.39	3384.84	-3432.08	0.06	0.00	-0.06	1828.00	4820.41	314.60	90L	10401071.14	2241787.48
	12400.00	90.00	313.04	7725.00	4920.36	3453.14	-3505.13	0.06	0.00	-0.06	1828.00	4920.37	314.57	90L	10401139.43	2241714.43
	12500.00	90.00	312.98	7725.00	5020.33	3521.35	-3578.25	0.06	0.00	-0.06	1828.00	5020.34	314.54	90L	10401207.64	2241641.31
	12600.00	90.00	312.91	7725.00	5120.30	3589.48	-3651.45	0.06	0.00	-0.06	1828.00	5120.30	314.51	90L	10401275.77	2241568.11
	12700.00	90.00	312.85	7725.00	5220.26	3657.53	-3724.73	0.06	0.00	-0.06	1828.00	5220.26	314.48	90L	10401343.82	2241494.84
	12800.00	90.00	312.79	7725.00	5320.22	3725.50	-3798.08	0.06	0.00	-0.06	1828.00	5320.22	314.45	90L	10401411.78	2241421.49
SEPCO State 30-23 #1-16H PBHL	12807.15	90.00	312.78	7725.00	5327.36	3730.35	-3803.32	0.06	0.00	-0.06	1828.00	5327.36	314.45		10401416.64	2241416.24

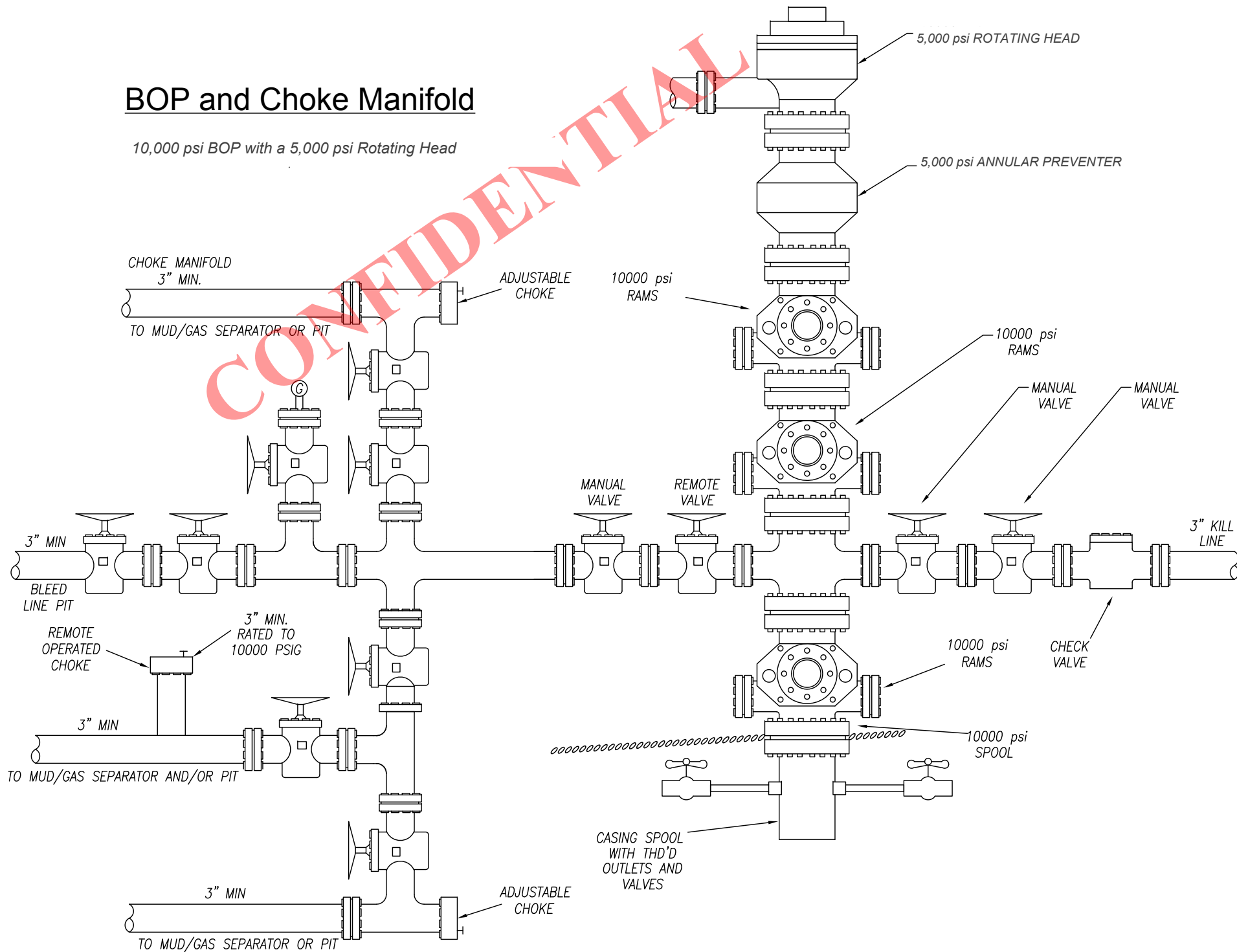
Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 \*\*\* 3-D 95.000% Confidence 2.7955 sigma  
Survey Program:

Description	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	0.000	20.000	1/100.000	30.000	30.000	SLB_MWD-STD-Depth Only	ST 01 / SEPCO State 30-23 #1-16H ST01 Rev0 KGT 30Nov12
	20.000	12807.146	1/100.000	30.000	30.000	SLB_MWD-STD	ST 01 / SEPCO State 30-23 #1-16H ST01 Rev0 KGT 30Nov12

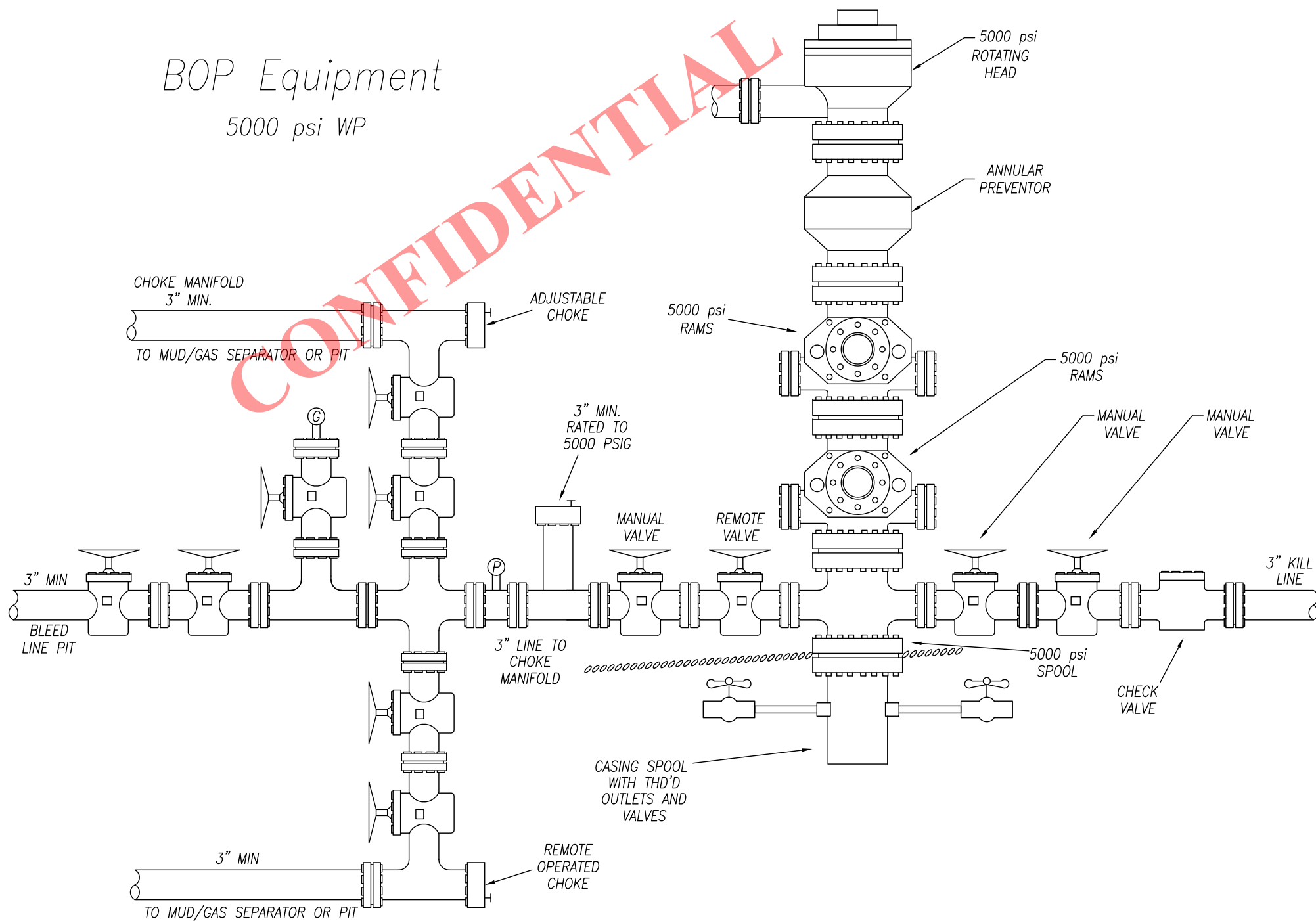
## BOP and Choke Manifold

10,000 psi BOP with a 5,000 psi Rotating Head



# BOP Equipment

5000 psi WP





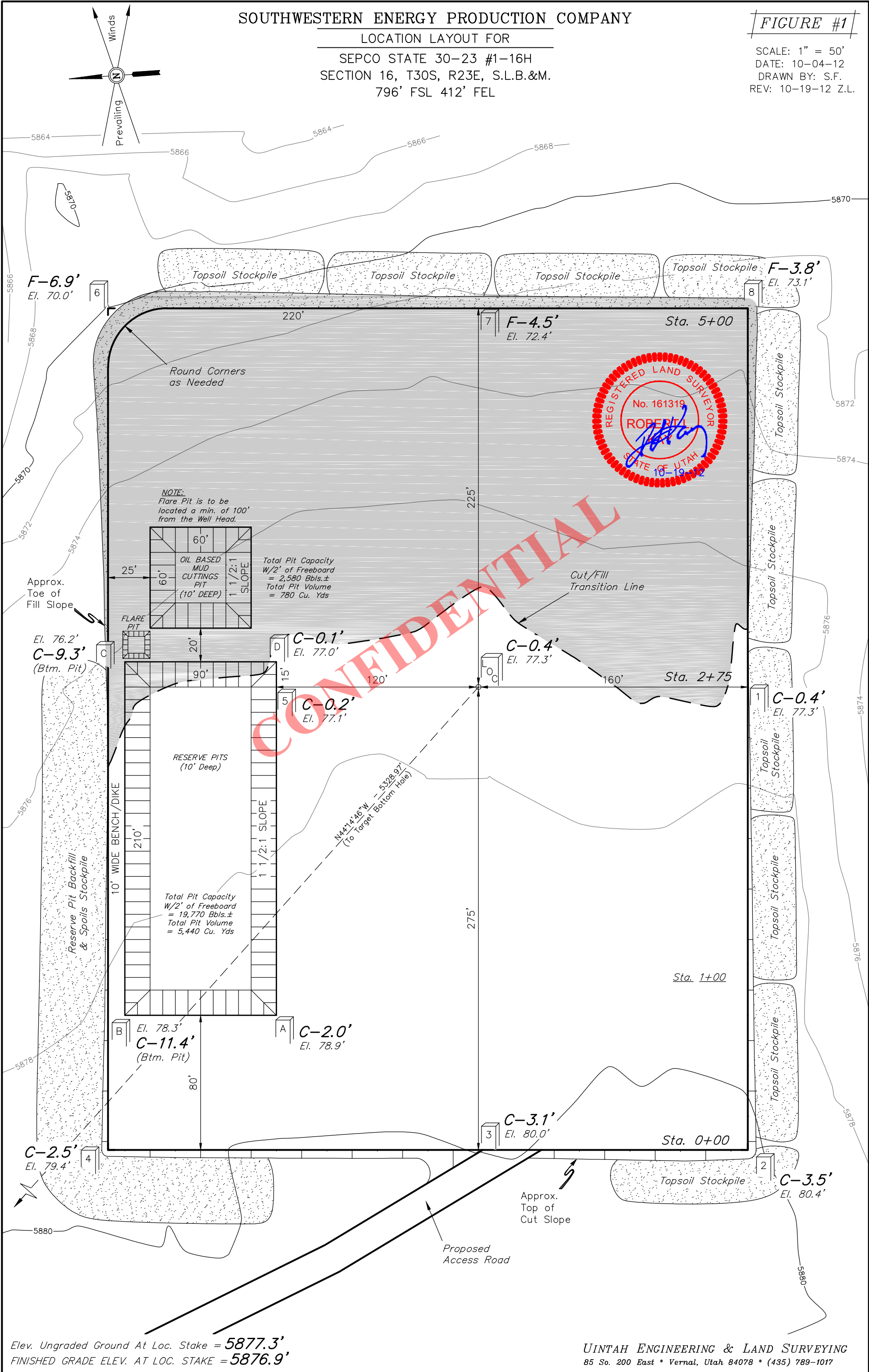
SOUTHWESTERN ENERGY PRODUCTION COMPANY

LOCATION LAYOUT FOR

SEPCO STATE 30-23 #1-16H  
SECTION 16, T30S, R23E, S.L.B.&M.  
796' FSL 412' FEL

FIGURE #1

SCALE: 1" = 50'  
DATE: 10-04-12  
DRAWN BY: S.F.  
REV: 10-19-12 Z.L.

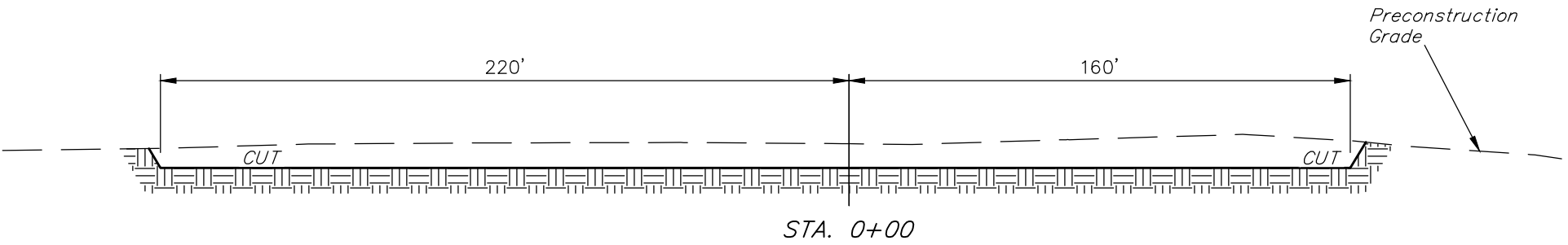
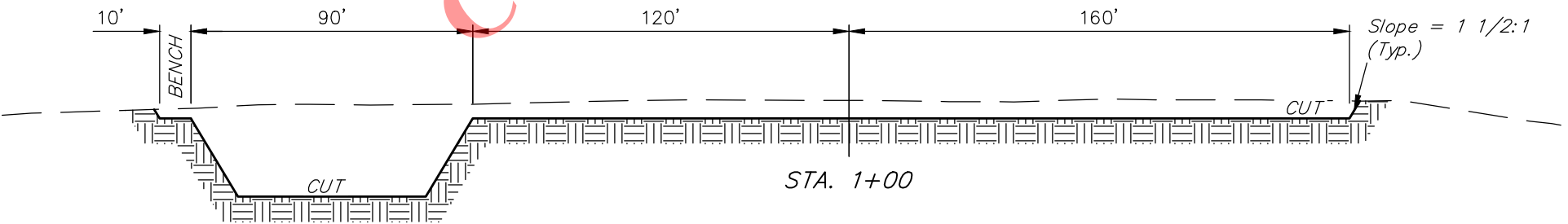
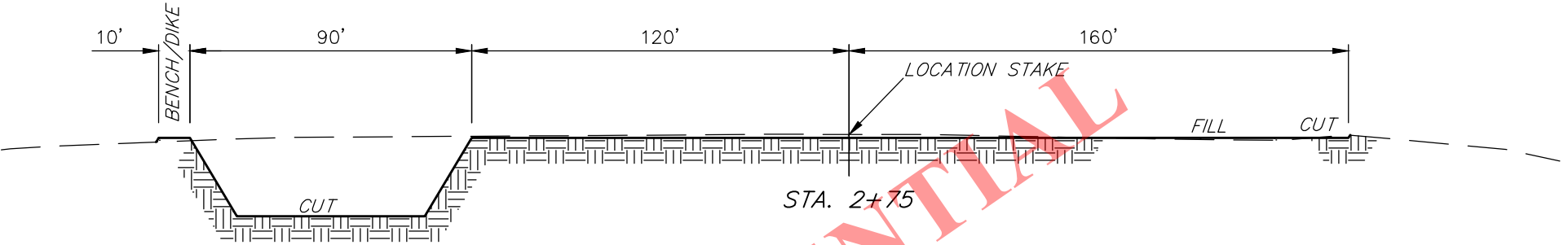
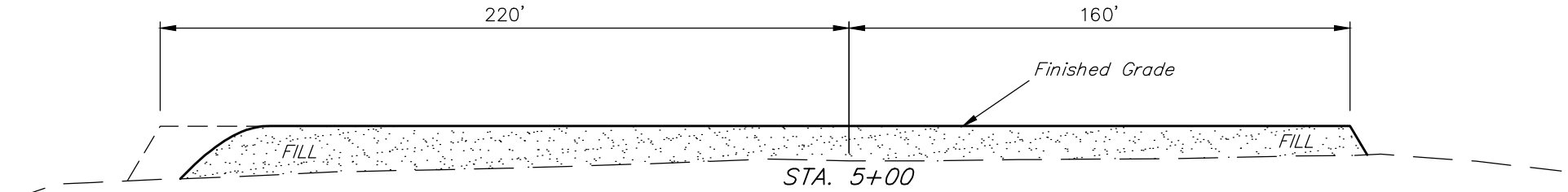
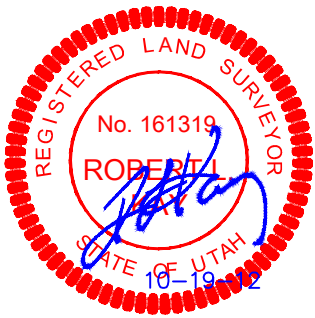


SOUTHWESTERN ENERGY PRODUCTION COMPANY

TYPICAL CROSS SECTIONS FOR  
SEPCO STATE 30-23 #1-16H  
SECTION 16, T30S, R23E, S.L.B.&M.  
796' FSL 412' FEL

FIGURE #2

1" = 20'  
X-Section Scale  
1" = 50'  
DATE: 10-04-12  
DRAWN BY: S.F.  
REV: 10-19-12 Z.L.



NOTE:  
Topsoil should not be  
Stripped Below Finished  
Grade on Substructure Area.

\* NOTE:  
FILL QUANTITY INCLUDES  
5% FOR COMPACTION

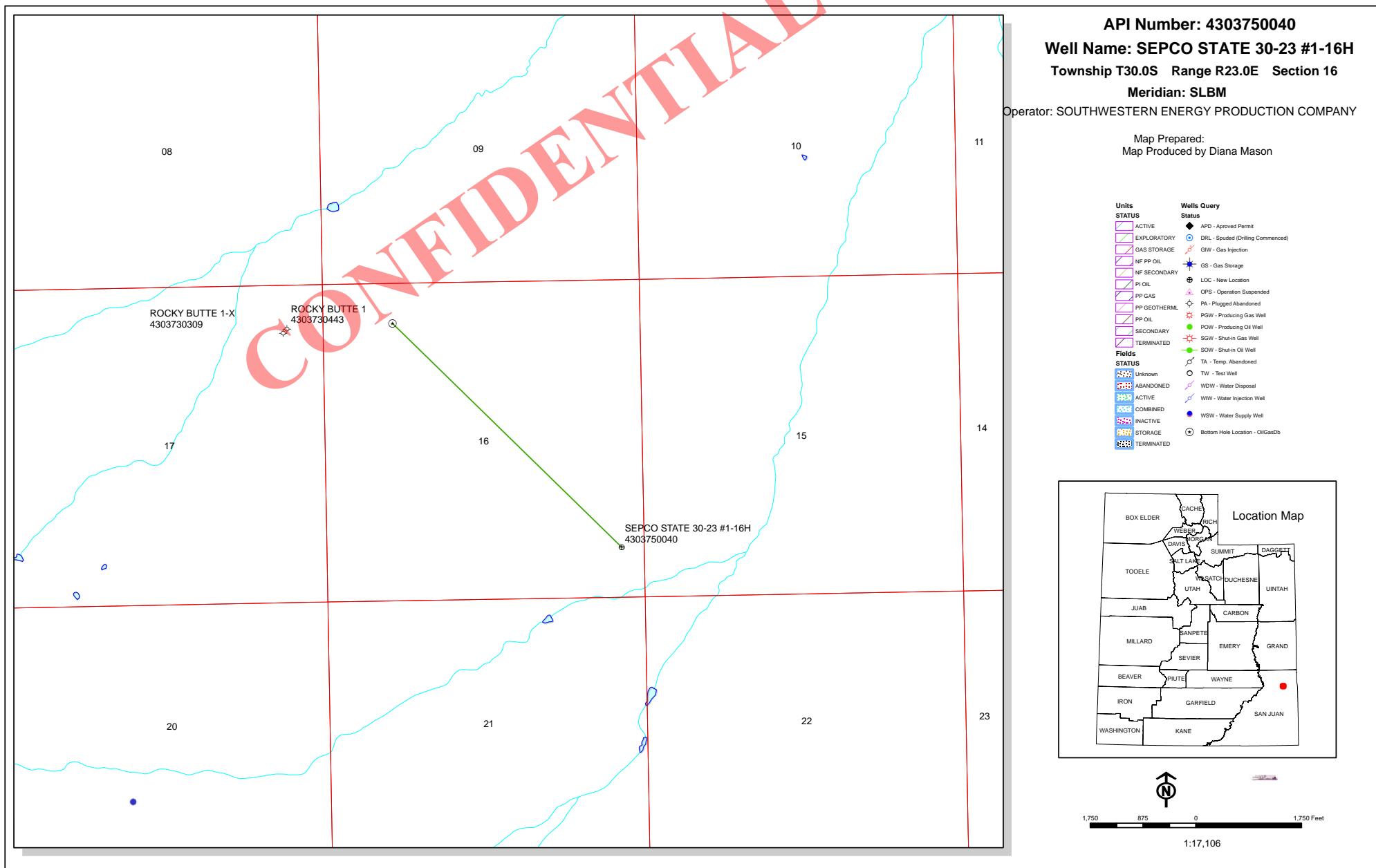
APPROXIMATE YARDAGES

(6") Topsoil Stripping = 3,660 Cu. Yds.  
Remaining Location = 10,940 Cu. Yds.  
TOTAL CUT = 14,600 CU. YDS.  
FILL = 7,830 CU. YDS.

EXCESS MATERIAL = 6,770 Cu. Yds.  
Topsoil & Pit Backfill = 6,770 Cu. Yds.  
(1/2 Pit Vol.)  
EXCESS UNBALANCE = 0 Cu. Yds.  
(After Interim Rehabilitation)

APPROXIMATE ACREAGES  
WELL SITE DISTURBANCE = ± 5.470 ACRES  
ACCESS ROAD DISTURBANCE = ± 0.709 ACRES  
TOTAL = ± 6.179 ACRES

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017



Well Name	SOUTHWESTERN ENERGY PRODUCTION COMPANY SEPCO STATE 3			
String	Surf	I1	I2	L1
Casing Size(in)	13.375	9.625	7.000	4.500
Setting Depth (TVD)	1640	5340	7725	7725
Previous Shoe Setting Depth (TVD)	0	1640	5340	7725
Max Mud Weight (ppg)	8.6	8.6	14.5	14.5
BOPE Proposed (psi)	500	5000	10000	10000
Casing Internal Yield (psi)	2730	7900	11220	10690
Operators Max Anticipated Pressure (psi)	5825			14.5

Calculations	Surf String	13.375	"
Max BHP (psi)	.052*Setting Depth*MW=	733	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	536	NO <input type="text" value="diverter"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	372	YES <input type="text" value="OK"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	372	NO <input type="text" value="OK"/>
Required Casing/BOPE Test Pressure=		1640	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

Calculations	I1 String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	2388	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1747	YES <input type="text" value="rotate head, 5M ann, double gate BOP w/blind and"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	1213	YES <input type="text" value="pipe rams"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	1574	YES <input type="text" value="OK"/>
Required Casing/BOPE Test Pressure=		5340	psi
*Max Pressure Allowed @ Previous Casing Shoe=		1640	psi *Assumes 1psi/ft frac gradient

Calculations	I2 String	7.000	"
Max BHP (psi)	.052*Setting Depth*MW=	5825	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4898	YES <input type="text" value="rotate head, 5M ann, double gate BOP w/blind and"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4126	YES <input type="text" value="pipe rams, single gate BOP with pipe rams"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5300	YES <input type="text" value="ok"/>
Required Casing/BOPE Test Pressure=		7725	psi
*Max Pressure Allowed @ Previous Casing Shoe=		5340	psi *Assumes 1psi/ft frac gradient

Calculations	L1 String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	5825	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4898	YES <input type="text" value="rotate head, 5M ann, double gate BOP w/blind and"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	4126	YES <input type="text" value="pipe rams, single gate BOP with pipe rams"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	5825	YES <input type="text" value="OK"/>
Required Casing/BOPE Test Pressure=		7483	psi
*Max Pressure Allowed @ Previous Casing Shoe=		7725	psi *Assumes 1psi/ft frac gradient

## 43037500400000 SEPCO State 30-23 #1-16H

## Casing Schematic

Surface

13-3/8"  
MW 8.8  
Frac 19.3

9-5/8"  
MW 8.8  
Frac 30.

to 4320 @ 6% w/o, tail 7016'  
\* Proposed 4300'

tail 7251'  
\* Proposed 705'

7"  
MW 14.5  
Frac 30.

4-1/2"  
MW 14.5

TOL @  
6852.

Production Liner  
12807. MD  
7725. TVD

TOC @  
5167.

Intermediate  
5340. MD  
5340. TVD

6365' Salt 13  
6455' Clastic 13  
6675' Salt 16

7220' Salt 19  
7440' Clastic 19  
7470' Salt 20

7680' Cane Creek  
7705' Cane Creek B

Intermediate: Prod'n  
8052. MD  
7725. TVD

796 SL	412 EL
3730	-3803
4526 SL	4215 EL
5273	5254
747 FNL	1039

8405' Leadville

TOC @ 0.  
310' Kayenta  
510' Wingate  
810' Chille

Moenkopi

TOC @  
1746.

Surface  
1640. MD

1640. TVD  
to 621 @ 5% w/o, tail 4300'  
\* Proposed to 620'

\* S + P ✓

4548' tail  
\* Proposed 4400'

4990' Paradox

5285' Gothic

Intermediate  
5340. MD  
5340. TVD  
Paradox Salt  
Salt 6

✓ Slip cuts.

CONFIDENTIAL

Vertical

7152' KOP  
incl. 10°/100'

8052  
90° incl

uncemented

Well name:	<b>43037500400000 SEPCO State 30-23 #1-16H</b>	
Operator:	<b>SOUTHWESTERN ENERGY PRODUCTION COMPANY</b>	
String type:	Surface	Project ID: 43-037-50040
Location:	SAN JUAN COUNTY	

**Design parameters:****Collapse**

Mud weight: 8.800 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 97 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: Surface

**Burst**

Max anticipated surface pressure: 1,443 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 1,640 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 1,427 ft

**Non-directional string.****Re subsequent strings:**

Next setting depth: 5,340 ft  
Next mud weight: 8.800 ppg  
Next setting BHP: 2,441 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 1,640 ft  
Injection pressure: 1,640 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	1640	13.375	54.50	J-55	ST&C	1640	1640	12.49	20349
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	750	1130	1.507	1640	2730	1.66	89.4	514	5.75 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: January 30, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 1640 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.



Well name:	<b>43037500400000 SEPCO State 30-23 #1-16H</b>		
Operator:	<b>SOUTHWESTERN ENERGY PRODUCTION COMPANY</b>		
String type:	Intermediate	Project ID:	43-037-50040
Location:	SAN JUAN COUNTY		

**Design parameters:****Collapse**

Mud weight: 8.800 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 149 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 1,746 ft

**Burst**

Max anticipated surface pressure: 4,119 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,294 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 4,641 ft

**Non-directional string.****Re subsequent strings:**

Next setting depth: 7,725 ft  
Next mud weight: 14.500 ppg  
Next setting BHP: 5,819 psi  
Fracture mud wt: 30.000 ppg  
Fracture depth: 5,340 ft  
Injection pressure: 8,322 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	5340	9.625	40.00	HCP-110	LT&C	5340	5340	8.679	211464
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	2441	4230	1.733	5294	7900	1.49	213.6	988	4.63 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: January 30, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 5340 ft, a mud weight of 8.8 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:	<b>43037500400000 SEPCO State 30-23 #1-16H</b>		
Operator:	<b>SOUTHWESTERN ENERGY PRODUCTION COMPANY</b>		
String type:	Intermediate: Prod'n	Project ID:	43-037-50040
Location:	SAN JUAN COUNTY		

**Design parameters:****Collapse**

Mud weight: 14.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 182 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

Cement top: 5,167 ft

**Burst**

Max anticipated surface pressure: 4,119 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,819 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 6,030 ft

**Directional Info - Build & Hold**

Kick-off point 7152 ft  
Departure at shoe: 573 ft  
Maximum dogleg: 10 °/100ft  
Inclination at shoe: 90 °

**Production liner info:**

Liner setting depth: 7,725 ft  
Pore pressure equivalent: 14.500 ppg  
Assumed BHP at TD: 5,819 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8052	7	29.00	HCP-110	LT&C	7725	8052	6.059	90928

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5819	9200	1.581	5819	11220	1.93	224	797	3.56 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: January 29, 2013  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 7725 ft, a mud weight of 14.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.



Well name:	<b>43037500400000 SEPCO State 30-23 #1-16H</b>	
Operator:	<b>SOUTHWESTERN ENERGY PRODUCTION COMPANY</b>	
String type:	Production Liner	Project ID: 43-037-50040
Location:	SAN JUAN COUNTY	

**Design parameters:****Collapse**

Mud weight: 14.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:****Collapse:**

Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 182 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,000 ft

**Burst:**

Design factor 1.00

**Burst**

Max anticipated surface pressure: 4,119 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 5,819 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

Tension is based on air weight.  
Neutral point: 7,588 ft

Liner top: 6,852 ft

**Directional Info - Build & Hold**

Kick-off point 7152 ft  
Departure at shoe: 5328 ft  
Maximum dogleg: 10 °/100ft  
Inclination at shoe: 90 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	5907	4.5	11.60	P-110	LT&C	7725	12807	3.875	28460
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5819	7580	1.303	5819	10690	1.84	9.6	279	29.15 J

Prepared Helen Sadik-Macdonald  
by: Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: January 29, 2013  
Salt Lake City, Utah

**Remarks:**

For this liner string, the top is rounded to the nearest 100 ft. Collapse is based on a vertical depth of 7725 ft, a mud weight of 14.5 ppg. The Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

*Engineering responsibility for use of this design will be that of the purchaser.*

# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

**Operator** SOUTHWESTERN ENERGY PRODUCTION COMPANY  
**Well Name** SEPCO STATE 30-23 #1-16H  
**API Number** 43037500400000 **APD No** 7240 **Field/Unit** WILDCAT  
**Location: 1/4,1/4 SESE Sec 16 Tw 30.0S Rng 23.0E 796 FSL 412 FEL**  
**GPS Coord (UTM)** **Surface Owner**

### **Participants**

Bart Kettle-DOGM, Nicole Nielson-UDWR, Ed Bonner-SITLA, Don Hamilton-Buys and Associates, Inc, Charlie Harrison-Harrison Oil Field Services, Alan Grimsley-Southwestern Energy, Mike Kelso-Mkelso Consulting, LLC.

### **Regional/Local Setting & Topography**

Proposed project site is located ~28 miles south of Moab Utah, in San Juan County Utah. On a regional setting the proposed project is located in the Canyonlands Region of the Colorado Plateau. The Canyonlands Region is renowned for its red rock canyons and spectacular views. Tourism is a growing industry in the region. In close proximity to the proposed project site, Aches National Park and Canyonlands National Park are popular destinations along with the community of Moab Utah. On a local scale the proposed project site is located in Dry Valley. Local points of interest include Wilson Arch, Looking Glass Rock, Wind Whistle Rock, Needles Overlook and Anticline Overlook. Topography in Dry Valley is typical of the Canyonlands Region: a series of large sandy mesa's abruptly falling off into steep canyons comprised of alternating layers of sandstone and shale. Climatic conditions within the region are arid, and vegetation is typically sparse. The proposed project site is located on a gentle slope consisting of sandy loam soils deposited on sandstone bedrock. Precipitation is considered a 10-12" precept zone. Soils are dominated by Eolian deposits and are predominantly unstable sands and sandy loams. Vegetation would be described as grass lands dominated by blue grama, curly galleta and four wing salt brush communities. Water drainage is to the northeast, entering Tank Wash within 500', Hatch Wash within 2.45 miles and the Colorado River within 39 miles. No perennial water sources were observed in close proximity to the project site, however a water well used for livestock is located within 900'.

### **Surface Use Plan**

#### **Current Surface Use**

Grazing  
Recreational  
Wildlife Habitat

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0.2	<b>Width 380 Length 500</b>	Onsite	ENTNA

#### **Ancillary Facilities N**

Additional information regarding management of oil based drilling fluids has been requested in regard to waste management.

**Waste Management Plan Adequate?** N

### **Environmental Parameters**

**Affected Floodplains and/or Wetlands N**

Nearest flood plain is located 500' away and 20' lower then proposed project area.

**Flora / Fauna**

Flora

Grass: Blue grama grass, curly galleta, cheat grass.

Forbs: None noted.

Shrubs: Wyoming sage, broom snakeweed, four wing salt brush.

Fauna: Antelope, coyote, kit fox, gray fox. Seasonal use by migrating birds such as sage sparrow, cassin finch, house finch, pinion jay, white crowned sparrow, gray crowned rosy finch, blue gray knat catcher, Bewick's wren, black throated sparrow, black capped chickadee, Brewers sparrow, bushtit, western kingbird, chipping sparrow, common nighthawk, Coppers hawk, sharp shin hawk, red tailed hawk, ruff legged hawk, golden eagle, turkey vulture, Downey wood pecker, juniper titmouse, northern shrike, mountain bluebird, mourning dove, pine siskin, sage thrasher, western blue bird, and western meadow lark. . Host of small rodents and reptiles possible such as: Black tailed rabbit, cottontail rabbit, woodrat spp, kangaroo rat spp., deer mouse, pinion mouse, rock squirrel, spotted skunk, and antelope squirrel.

**Soil Type and Characteristics**

Orange sandy loams, wind deposited in nature.

**Erosion Issues Y**

Soils prone to wind erosion once disturbed. Interim reclamation should be completed within 12 months following well pad construction.

**Sedimentation Issues N**

Storm water erosion of disturbed soils in not expected to be a significant issue.

**Site Stability Issues N**

Site appears suitable for the proposed drilling program. Precautions will be required to prevent contamination of shallow fresh water aquifers from oil based drilling mediums and cuttings high in chlorides.

**Drainage Diverson Required? N**

**Berm Required? Y**

Berms and a synthetic under liner will be required around all tanks containing fuels, lubricants, oil based drilling mediums, salt or detrimental cuttings and production facilities.

**Erosion Sedimentation Control Required? Y**

Interim reclamation, including seeding of well pad outside of anchors, should be completed within 12 months following well pad construction.

**Paleo Survey Run? Y    Paleo Potental Observed? N    Cultural Survey Run? Y    Cultural Resources? N**

**Reserve Pit**

**Site-Specific Factors**

**Site Ranking**

**Distance to Groundwater (feet)    75 to 100                      10**

<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	300 to 1320	10
<b>Native Soil Type</b>	High permeability	20
<b>Fluid Type</b>	Oil Base Mud Fluid	15
<b>Drill Cuttings</b>	Salt or Detrimental	10
<b>Annual Precipitation (inches)</b>	10 to 20	5
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
<b>Final Score</b>	70	1 Sensitivity Level

**Characteristics / Requirements**

Proposed drilling system includes the use of a oil based mud drilling system to stabilize hole through Paradox salt zones. As such a 210' x 90' x 10' reserve pit is being proposed along with a 60' x 60' x 10' cutting pit.

Proposed drilling program includes a 8252' vertical hole followed by a 5327' lateral. Duration to complete drilling program is anticipated to exceed 60 days. Due to prolonged drilling program pit liners shall be inspected weekly to assure integrity.

Reserve pit fluids at sites with comparable drilling programs within the Paradox formation have had TDS in excess of 50,000 mg/l. Additional reclamation steps may be required for materials high in chlorides. Precautions should be taken while drilling to assure salt or detrimental cuttings are not mixed with normal rock cuttings.

Surface formations are members of the Glen Canyon group and are capable of containing fresh water aquifers. Permeability of soils and underlying sandstones is medium to high. Pit liner of 20 ml for reserve pit and 30 ml for cuttings pit shall be properly installed with bedding of sand or felt. Tanks holding oil based drilling materials or E&P fluids should be underlain with a synthetic liner.

**Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y**

**Other Observations / Comments**

Access road is proposed as a 14' running surface with turnouts. Minimal construction will be completed until well is deemed capable of commercial production. Pit run will be placed at wash crossing and portions of road requiring maintenance during drilling operations. Cattle guards should be installed at fence crossing along San Juan County road 138.

DWR classifies proposed project site as antelope fawning habitat. Recommendations for no activity April 15 th-June 15 th.

DOGM noted significant concerns regarding reserve/cuttings pit lining, management and reclamation. Pit contents with TDS in excess of 50,000 mg/l are possible, as such additional stipulations and precautions will be required.

Top 6-12" of top soils should be saved and stockpile on the east and southern sides of the well pad. All disturbed soils shall be seeded within 12 months of disturbance.

Bart Kettle

1/15/2013

RECEIVED: February 07, 2013

**Evaluator**

**Date / Time**

**CONFIDENTIAL**

# Application for Permit to Drill

## Statement of Basis

### Utah Division of Oil, Gas and Mining

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
7240	43037500400000	SITLA	OW	S	No
<b>Operator</b>	SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>Surface Owner-APD</b>		
<b>Well Name</b>	SEPCO STATE 30-23 #1-16H		<b>Unit</b>		
<b>Field</b>	WILDCAT		<b>Type of Work</b>	DRILL	
<b>Location</b>	SESE 16 30S 23E S 796 FSL 412 FEL GPS Coord (UTM) 640508E 4226197N				

#### Geologic Statement of Basis

Southwestern is proposing to set 1640' of surface casing at this location. The location is situated on very permeable soil formed on Quaternary deposits covering the Jurassic/Trassic age Glen Canyon Group which is known to contain fresh water. A search of the Division of Water Rights database indicates that there are 8 water wells within a 10,000 foot radius of the center of Section 16. These wells range in depth from 47-400 feet in depth. Listed uses are domestic and stock watering. The subject well will use a benign air/water based mud system to 1,640' (into Moenkopi Formation). Surface pipe will likely be set into the Moenkopi Formation. The proposed surface casing and cementing program should adequately protect any zones of fresh water that may be penetrated.

Brad Hill  
APD Evaluator

1/29/2013  
Date / Time

#### Surface Statement of Basis

On-site evaluation conducted January 15, 2012. In attendance: Bart Kettle-Division of Oil, Gas and Mining (DOGM), Nicole Nielson-Division of Wildlife Resources (UDWR), Ed Bonner-Trust Lands Administration (SITLA), Don Hamilton-Buys and Associates, Inc., Charlie Harrison-Harrison Oil Field Services, Alan Grimsley-Southwestern Energy, Mike Kelso-Mkelso Consulting, Inc.

Proposed project is located in an environmentally sensitive region. National Parks, slick rock trails, river rafting and scenic views attract thousands of tourists to the region annually. Due to recent awareness of mineral exploration in the area it is reasonable to expect scrutiny of drilling operations for proposed project. Operator instructed to monitor drilling operations and ROW activity closely. Problems should be addressed immediately.

UDWR recommending season closure for antelope fawning of April 15th to June 15th.

DOGM requiring additional precautions for reserve pit and cuttings pits proposed to contain oil based drilling medium and salt cuttings. Slopes of pit walls should not exceed 2:1. Pits shall be lined as determined by site evaluation ranking. The geomembrane shall consist of 30 mil string reinforced LDPE or equivalent liner for cuttings pit and 20 mil for reserve pit. The geomembrane liner should be composed of an impervious synthetic material resistant to hydrocarbons, salts and alkaline solutions.

Blasting is anticipated for reserve pit, fractured rock should be properly bedded with sand or a felt liner. Liner edges should be secured. Liner should be protected from fluid force or mechanical damage at points of discharge or suction.

Due to anticipated prolonged drilling operations precautions should be taken to prevent punctures from drilling related activities. Weekly inspection of liner should be conducted and recorded. Surface water run off should not be allowed to enter pits.

While drilling three sides of pits should be fenced. Fencing should include reinforced corner braces, 36" woven net wire on the bottom and two strands of barbed wire on top spaced at 6" apart. Following completion of drilling activities pits will require fencing on the fourth side, removal of free standing oil and netting to prevent entry by water fowl.

Pits will require reclamation to be completed one year following the removal of drilling rig. Reclamation measures shall be submitted to DOGM for approval following analysis of pit contents.

Bart Kettle  
Onsite Evaluator

1/15/2013  
Date / Time

**Conditions of Approval / Application for Permit to Drill**

Category	Condition
Pits	A synthetic liner with a minimum thickness of 20 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	Weekly inspections of pits and liners shall be conducted and documented until reclaimed.
Pits	A geomembrane liner with a minimum thickness of 30 mils shall be properly installed and maintained in the cuttings pit. The geomembrane liner shall consist of a string reinforced impervious synthetic material, resistant to hydrocarbons, salts and alkaline solutions.
Pits	Liner edges must be secured.
Pits	Slopes of pit walls shall not exceed 2:1
Pits	All free standing oil shall be removed from pits.
Pits	The Division shall be consulted prior to reclamation of reserve pit and cuttings pit.
Pits	The liner shall be protected from fluid force or mechanical damage at points of discharge or suction.
Pits	Fractured rock shall be properly bedded with sand or a felt liner.
Pits	Pits shall be fenced and netted upon completion of drilling operations.
Surface	Interim reclamation shall be completed within 12 months following well pad construction.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 12/13/2012

API NO. ASSIGNED: 43037500400000

WELL NAME: SEPCO STATE 30-23 #1-16H

OPERATOR: SOUTHWESTERN ENERGY PRODUCTION COMPANY (N3925)

PHONE NUMBER: 281 618-7414

CONTACT: Amy Johnson

PROPOSED LOCATION: SESE 16 300S 230E

Permit Tech Review: ☒

SURFACE: 0796 FSL 0412 FEL

Engineering Review: ☒

BOTTOM: 0660 FNL 1130 FWL

Geology Review: ☒

COUNTY: SAN JUAN

LATITUDE: 38.17274

LONGITUDE: -109.39591

UTM SURF EASTINGS: 640508.00

NORTHINGS: 4226197.00

FIELD NAME: WILDCAT

LEASE TYPE: 3 - State

LEASE NUMBER: ML51650

PROPOSED PRODUCING FORMATION(S): CANE CREEK

SURFACE OWNER: 3 - State

COALBED METHANE: NO

## RECEIVED AND/OR REVIEWED:

☒ PLAT☒ Bond: STATE/FEE - 09086761☐ Potash☐ Oil Shale 190-5☐ Oil Shale 190-3☐ Oil Shale 190-13☒ Water Permit: 1002☒ RDCC Review: 2013-02-07 00:00:00.0☐ Fee Surface Agreement☐ Intent to Commingle

Commingle Approved

## LOCATION AND SITING:

☐ R649-2-3.

Unit:

☐ R649-3-2. General☐ R649-3-3. Exception☒ Drilling Unit

Board Cause No: R649-3-2.6

Effective Date:

Siting:

☐ R649-3-11. Directional Drill

Comments: Presite Completed

Stipulations:

- 5 - Statement of Basis - bhill
- 10 - Cement Ground Water - hmacdonald
- 12 - Cement Volume (3) - hmacdonald
- 21 - RDCC - dmason
- 23 - Spacing - dmason
- 25 - Surface Casing - hmacdonald
- 26 - Temporary Spacing - bhill
- 27 - Other - bhill

RECEIVED: February 07, 2013





GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

## Permit To Drill

\*\*\*\*\*

**Well Name:** SEPCO STATE 30-23 #1-16H  
**API Well Number:** 43037500400000  
**Lease Number:** ML51650  
**Surface Owner:** STATE  
**Approval Date:** 2/7/2013

### Issued to:

SOUTHWESTERN ENERGY PRODUCTION COMPANY, 2350 N Sam Houston Pkwy E,  
Suite 125, Houston, TX 77032

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of R649-3-2.6. The expected producing formation or pool is the CANE CREEK Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

### Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### Conditions of Approval:

The Application for Permit to Drill has been forwarded to the Resource Development Coordinating Committee for review of this action. The operator will be required to comply with any applicable recommendations resulting from this review. (See attached)

This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing

a Request for Agency Action with the Board.

A temporary 640 acre spacing unit is hereby established in Section 16, Township 30 S, Range 23 E, SLBM for the drilling of this well (R649-3-2.6). No other horizontal wells may be drilled in this section unless approved by the Board of Oil, Gas and Mining.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

In accordance with Utah Admin. R.649-3-21, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

The 9 5/8" casing string cement shall be brought back to  $\pm 620'$  to isolate base of moderately saline ground water, as stated in submitted drill plan.

Cement volume for the 7" intermediate production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 4300' MD as indicated in the submitted drilling plan.

Surface casing shall be cemented to the surface.

**Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan - contact Dustin Doucet
- Significant plug back of the well - contact Dustin Doucet
- Plug and abandonment of the well - contact Dustin Doucet

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well - contact Carol Daniels  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website  
at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing - contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program  
- contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well - contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office

- Dan Jarvis                      801-733-0983 - after office hours  
   801-538-5338 - office  
   801-231-8956 - after office hours

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) - due within 5 days of spudding the well
- Monthly Status Report (Form 9) - due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) - due prior to implementation
- Written Notice of Emergency Changes (Form 9) - due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) - due prior to implementation
- Report of Water Encountered (Form 7) - due within 30 days after completion
- Well Completion Report (Form 8) - due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "J. Rogers", written over a horizontal line.

For John Rogers  
Associate Director, Oil & Gas



dianawhitney@utah.gov

Mail

More

16 of about 104

COMPOSE

Rotten Tomatoes: Movies - 78% Warm Bodies - 43 minutes ago

Web Clip

Inbox (59)

Starred

Important

Sent Mail

Drafts (1)

BLM (77)

Cabinet

Electronic Ring

Eng. Tech

Follow up

Misc

Priority

Tanq

More

## Sepco State 30-23-1-16H approval

Inbox x



**Jim Davis**

Feb 4 (10 days ago) ★

to Ed, LaVonne, Brad, Jeff, me, Amy

The APD for the SEPSCO STATE 30-23 #1-16H (4303750040) has been approved by SITLA including arch and paleo clearance.  
Thanks.



Click here to [Reply](#), [Reply to all](#), or [Forward](#)

People (6)

**Jim Davis**

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Last account activity: 52 minutes ago

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[Details](#)



Jean Sweet &lt;jsweet@utah.gov&gt;

---

**Fwd: Oil based mud handling for Sepco St 30-23 #1-16H**

1 message

---

**Bart Kettle** <bartkettle@utah.gov>  
To: Jean Sweet <jsweet@utah.gov>

Mon, Mar 4, 2013 at 4:36 PM

Jean,

I need this waste management plan for oil based drilling fluids included into the well file for this well. Would you handle that or do I need to get it else where? I can't seem to remember?

SEPCO State 30-23 #1-16H  
APD#  
API# 43-037-50040

3DS 23E 16

Bart Kettle  
Environmental Scientist  
Office 435-613-3734  
Cellular 435-820-0862

----- Forwarded message -----

From: **Alan Grimsley** <Alan\_Grimsley@swn.com>  
Date: Wed, Feb 27, 2013 at 12:09 PM  
Subject: RE: Oil based mud handling for Sepco St 30-23 #1-16H  
To: Bart Kettle <bartkettle@utah.gov>  
Cc: Amy Johnson <Amy\_Johnson@swn.com>

Bart,

The attached document should answer any questions that you have. Please feel free to call me (or email) if you need any further information and wish to discuss.

Regards,

Alan

Alan Grimsley

Drilling Discipline Lead

Southwestern Energy Production Company

Office: (281) 618-4068

Mobile: (713) 492-1657

alan\_grimsley@swn.com

---

**From:** Bart Kettle [mailto:bartkettle@utah.gov]  
**Sent:** Thursday, February 21, 2013 1:22 PM  
**To:** Alan Grimsley  
**Subject:** Oil based mud handling for Sepco St 30-23 #1-16H

Alan,


Still looking for procedures from Southwestern Energy regarding how Oil based mud and associated cuttings will be handled while drilling and in the interim reclamation. Do you have an update?

Bart Kettle  
Environmental Scientist  
Office 435-613-3734

Cellular 435-820-0862

Notice: This e-mail may contain privileged and/or confidential information and is intended only for the addressee. If you are not the addressee or the person responsible for delivering it to the addressee, you may not copy or distribute this communication to anyone else. If you received this communication in error, please notify us immediately by telephone or return e-mail and promptly delete the original message from your system. Thank you!

---

 **SEPCO State 30-23 #1-16H Waste Management .pdf**  
16K

## **4. WASTE MANAGEMENT**

The well will be drilled using a closed loop system. Cuttings will be hauled offsite and disposed of at the Klondike Facility Landfill located approximately (20)twenty miles north of Moab off of Highway 191. Each load will need a manifest. The landfill does not take liquid waste. The Klondike facility will be the primary for cuttings disposal.

Opening Times for solid waste: Monday-Friday: 8:30 am – 1:00 pm. Closed on Saturday and Sunday.

The OBM cuttings pit shown on the location layout of the survey plat will not be built. Additional cuttings boxes will be required at location in the event of logistical issues.

Secondary facilities for cuttings disposal will be:

- a) ECDC Environmental – East Carbon, Utah
- b) Reams Construction – Naturia, Co.

Liquid waste will be trucked to one of the following facilities:

- a) Danish Flats Environmental Services – Grand County, Utah
- b) Reams Construction – Naturia, Co.

### **4.1.2. Oil Based Mud Rig Site Storage:**

OBM will be stored temporarily in (4) four 500 bbl round bottom tanks plus (1) lay down tank for mud diesel storage during the drilling process. This storage will be in addition to the 1000 bbl rig mud tanks and processing system. The tank storage area will be located on the west side (backyard) of the pad layout within a tank battery that will be temporarily lined and surrounded by a secondary earthen containment berm. The containment berm will have sufficient capacity to contain 1.1 times the capacity of the largest single tank and sufficient freeboard to contain precipitation. All necessary lines and valves will be contained inside the berm surrounding the tank battery. Each storage tank will be placed in 12' (W) x 50' (L) x 1' (H) SpillGuard to contain minor spills.

At the conclusion of the drilling process, all OBM will be removed from the pad area by truck and recycled as well as removal of the storage tanks. The lined earthen berm will be removed from location once it is no longer necessary. The time frame for removal will be within 12 (twelve) months of the end of drilling operations.

### **4.1.3. On-site Spill Reporting:**

Any spill will be immediately reported to the rig supervisor. Small spills would be contained, solidified, and transported by truck to an approved solid waste disposal facility. Larger spills and spills not contained to the pad area would require coordination with regulatory agencies and a more detailed spill response as outlined in the SEPCO Emergency Response Plan (ERP). Personnel at the drill site during the drilling phase will be familiar with spill response and contractors with spill response equipment, in the event of a spill.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>3/1/2013</b>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> ACIDIZE</div> <div style="width: 33%;"><input type="checkbox"/> ALTER CASING</div> <div style="width: 33%;"><input type="checkbox"/> CASING REPAIR</div> <div style="width: 33%;"><input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE TUBING</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL NAME</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL STATUS</div> <div style="width: 33%;"><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</div> <div style="width: 33%;"><input type="checkbox"/> CONVERT WELL TYPE</div> <div style="width: 33%;"><input type="checkbox"/> DEEPEN</div> <div style="width: 33%;"><input type="checkbox"/> FRACTURE TREAT</div> <div style="width: 33%;"><input type="checkbox"/> NEW CONSTRUCTION</div> <div style="width: 33%;"><input type="checkbox"/> OPERATOR CHANGE</div> <div style="width: 33%;"><input type="checkbox"/> PLUG AND ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> PLUG BACK</div> <div style="width: 33%;"><input type="checkbox"/> PRODUCTION START OR RESUME</div> <div style="width: 33%;"><input type="checkbox"/> RECLAMATION OF WELL SITE</div> <div style="width: 33%;"><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> REPERFORATE CURRENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> SIDETRACK TO REPAIR WELL</div> <div style="width: 33%;"><input type="checkbox"/> TEMPORARY ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> TUBING REPAIR</div> <div style="width: 33%;"><input type="checkbox"/> VENT OR FLARE</div> <div style="width: 33%;"><input type="checkbox"/> WATER DISPOSAL</div> <div style="width: 33%;"><input type="checkbox"/> WATER SHUTOFF</div> <div style="width: 33%;"><input type="checkbox"/> SI TA STATUS EXTENSION</div> <div style="width: 33%;"><input type="checkbox"/> WILDCAT WELL DETERMINATION</div> <div style="width: 33%;"><input type="checkbox"/> OTHER</div> </div>
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	
OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Request to move the pit location 20' south and 50' east. The size of the pad and pit will be the same. Please see attachments.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining**

Date: March 20, 2013

By: 

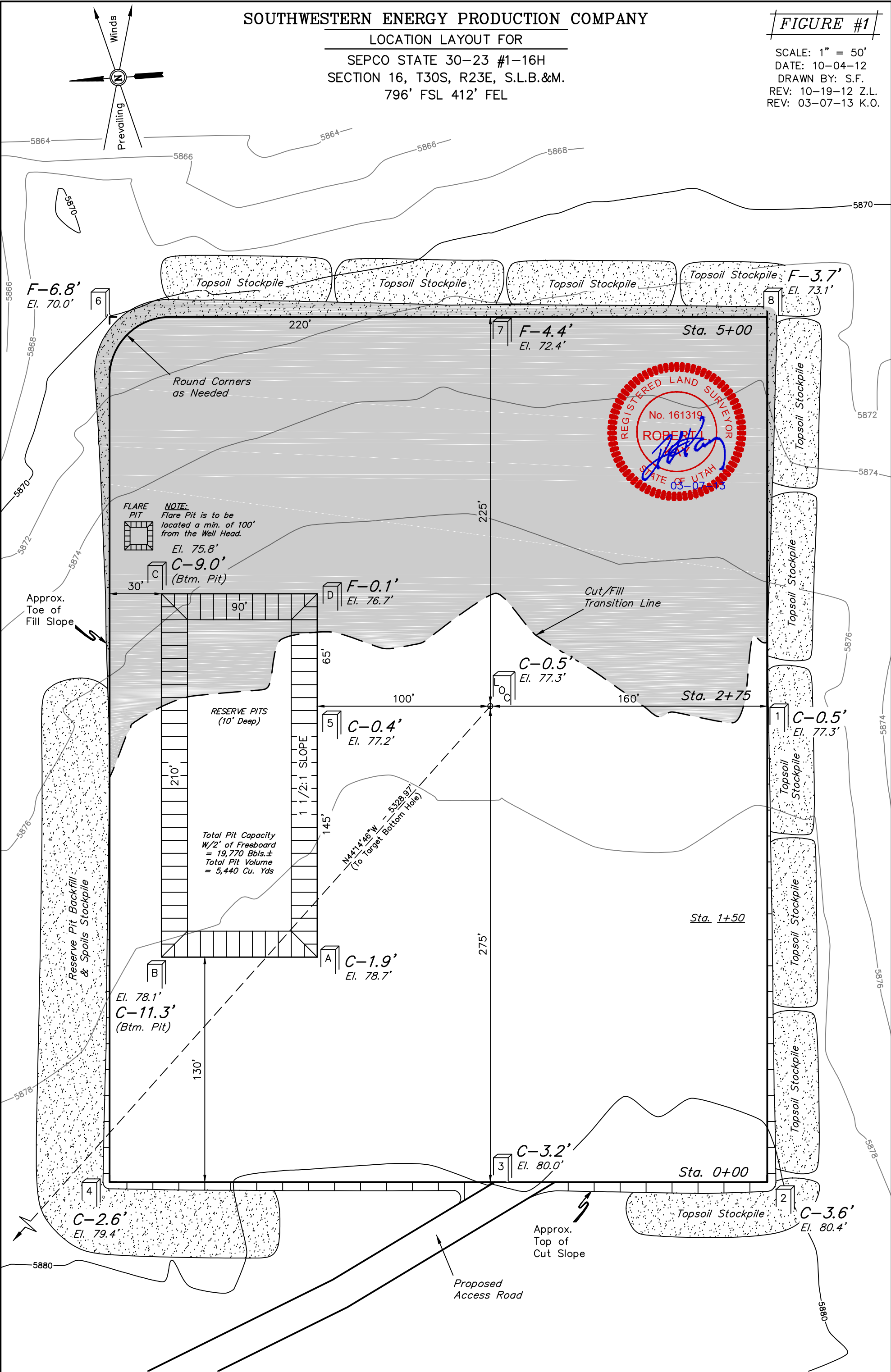
<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/7/2013	



SOUTHWESTERN ENERGY PRODUCTION COMPANY  
LOCATION LAYOUT FOR

SEPCO STATE 30-23 #1-16H  
SECTION 16, T30S, R23E, S.L.B.&M.  
796' FSL 412' FEL

FIGURE #1  
SCALE: 1" = 50'  
DATE: 10-04-12  
DRAWN BY: S.F.  
REV: 10-19-12 Z.L.  
REV: 03-07-13 K.O.



Elev. Ungraded Ground At Loc. Stake = 5877.3'  
FINISHED GRADE ELEV. AT LOC. STAKE = 5876.8'

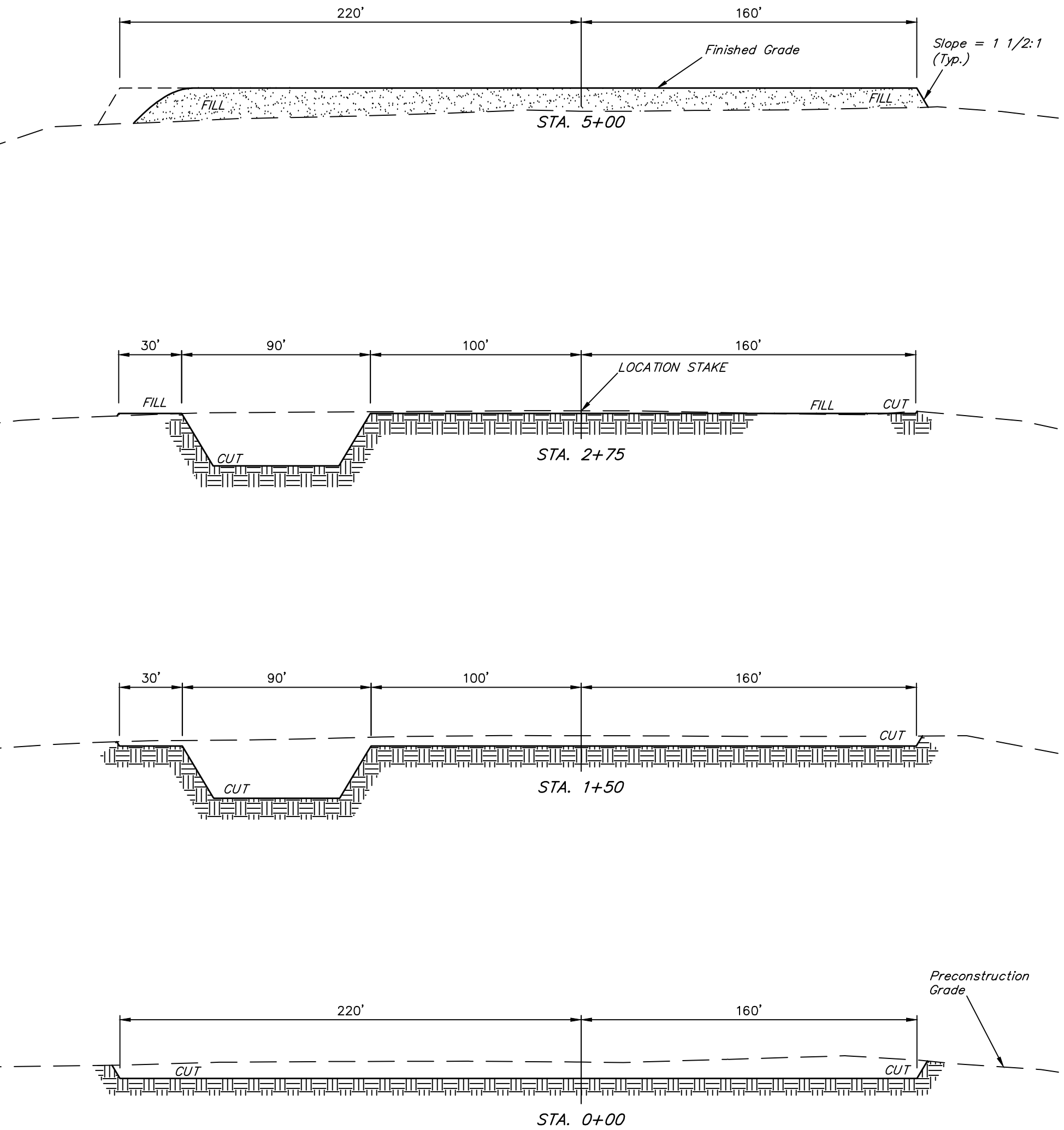
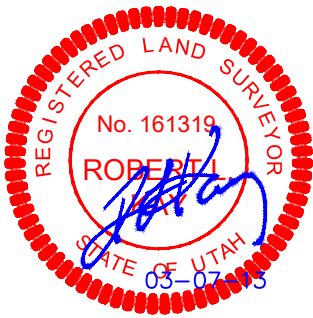
UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

SOUTHWESTERN ENERGY PRODUCTION COMPANY

TYPICAL CROSS SECTIONS FOR  
SEPCO STATE 30-23 #1-16H  
SECTION 16, T30S, R23E, S.L.B.&M.  
796' FSL 412' FEL

FIGURE #2

1" = 20'  
X-Section  
Scale  
1" = 50'  
DATE: 10-04-12  
DRAWN BY: S.F.  
REV: 10-19-12 Z.L.  
REV: 03-07-13 K.O.



NOTE:  
Topsoil should not be  
Stripped Below Finished  
Grade on Substructure Area.

\* NOTE:  
FILL QUANTITY INCLUDES  
5% FOR COMPACTION

APPROXIMATE YARDAGES

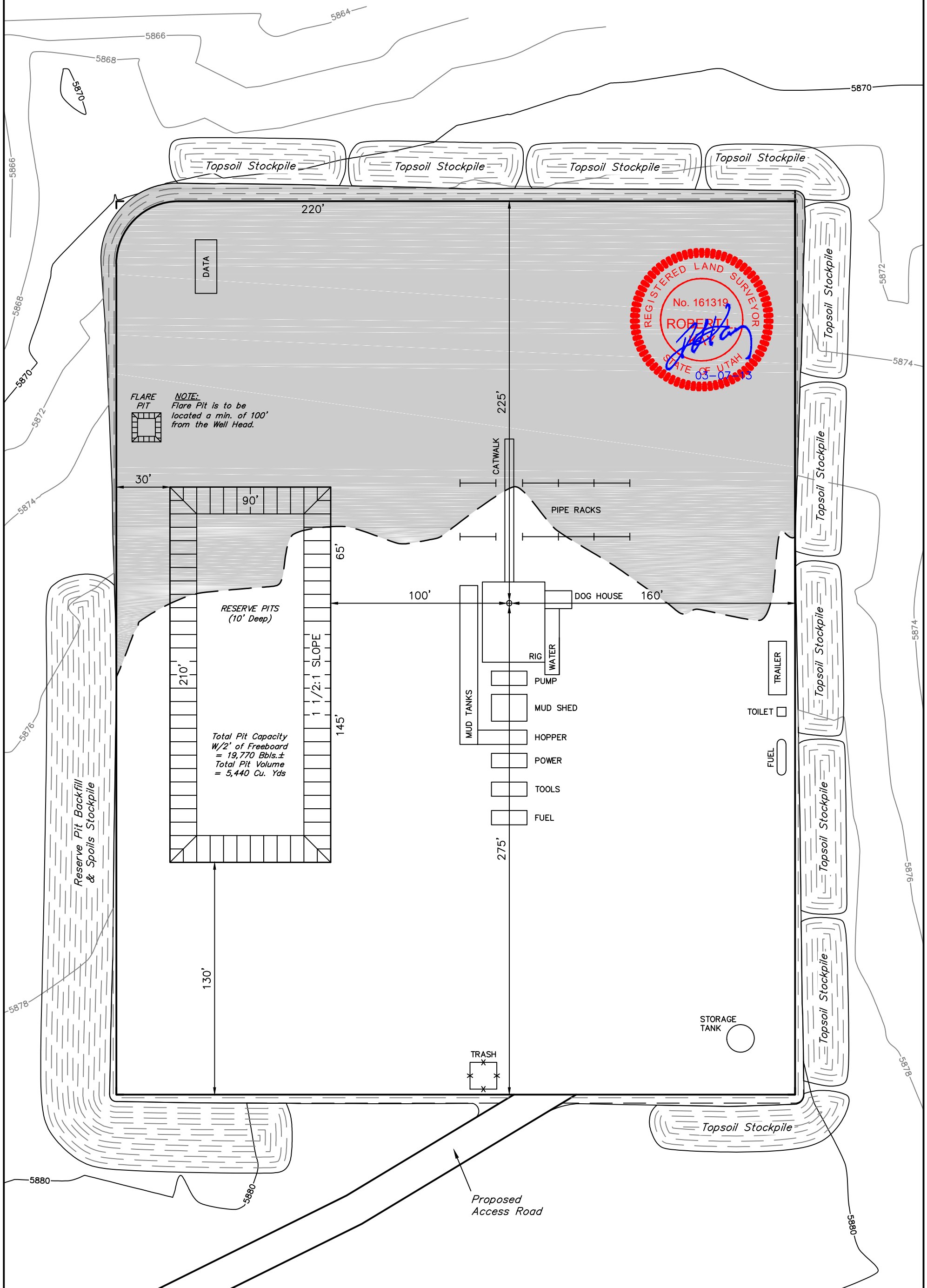
(6") Topsoil Stripping = 3,660 Cu. Yds.  
Remaining Location = 10,420 Cu. Yds.  
TOTAL CUT = 14,080 CU. YDS.  
FILL = 7,700 CU. YDS.

EXCESS MATERIAL = 6,380 Cu. Yds.  
Topsoil & Pit Backfill = 6,380 Cu. Yds.  
(1/2 Pit Vol.)  
EXCESS UNBALANCE = 0 Cu. Yds.  
(After Interim Rehabilitation)

APPROXIMATE ACREAGES  
WELL SITE DISTURBANCE = ± 5.470 ACRES  
ACCESS ROAD DISTURBANCE = ± 0.709 ACRES  
TOTAL = ± 6.179 ACRES

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

SCALE: 1" = 50'  
DATE: 10-04-12  
DRAWN BY: S.F.  
REV: 10-19-12 Z.L.  
REV: 03-07-13 K.O.



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
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<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>3/30/2013</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see the attached drilling plan. The proposed casing program has changed.		
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> March 25, 2013  <b>By:</b> <u><i>Derek Duff</i></u>		
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor
<b>DATE</b> 3/4/2013		



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43037500400000**

**A sundry should be submitted requesting approval to drill into the Leadville with an attached H2S contingency plan. The contingency plan should be approved and in place at least 500' prior to drilling into the Leadville.**

**SEPCO  
WELL PLAN  
STATE 30-23 #1-16H**

**SURFACE LOCATION:**

796 ft FSL & 412 ft FEL  
SESE Section 16 T30S R23E  
San Juan County, Utah

**BOTTOMHOLE LOCATION:**

660 ft FNL & 1130 ft FWL  
NWNW Section 16 T30S R23E  
San Juan County, Utah

**GENERAL**

- This well and data generated by drilling, evaluation and testing of this well are to be considered and held CONFIDENTIAL.
- The vertical section above the Gothic will be drilled using Air/Mist and air hammer. If excessive water production is encountered, the drilling operations will switch progressively from air/mist to foam to water.
- Pilot hole drilled into the Leadville  $\pm 100$  ft.
- Following evaluation of the pilot hole, the well will be plugged back and kicked off to drill a curve at  $10^\circ/100$  ft on a Northwesterly azimuth and landed approximately in the middle of the Cane Creek B section at a TVD (ref GL) of 7705 ft.
- The lateral will be drilled to 4760 ft or the maximum allowed by the section limits.

GL = 5877 ft

Surface formation = Carmel

**1. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS**

FORMATION	TVD SS	TVD ref GL	Lithology	Potential	Hazard
Carmel	5877'	Surface/0'	SS, SltSt		
Navajo	5867'	10'	SS	Water	
Kayenta	5567'	310'	SS	Water	
Wingate	5367'	510'	SS	Water	
Chinle	5067'	810'	SltSt, Mudst		
Paradox	887'	4990'	Sh		
Gothic	592'	5285'	Sh	Oil, gas	
Salt (Paradox)	527'	5350'	Salt, Ha		
Salt 6	332'	5545'	Salt, potash, Ha	Potash	
Salt 13	-488'	6365'	Salt, potash, Ha	Poss. potash	
Clastic 13	-608'	6485'	Do, Sh, Ls, Anhy		
Salt 16	-798'	6675'	Salt, potash, Ha	Poss. potash	
Salt 19	-1343	7220'	Salt, potash, Ha	Poss. potash	
Clastic 19	-1563	7440'	Do, Sh, Ls, Anhy	Oil, gas	
Salt 20	-1593	7470'	Salt, potash, Ha	Poss. Potash	
Cane Creek	-1803'	7680'	Do, Sh, Ls, Anhy	Oil, gas, water	
Cane Creek "B"	-1828'	7705'	Do, Sh, Ls, Anhy	Oil, gas, water	
Leadville	-2528'	8405'	Ls	Oil, gas, water	
TD (Pilot Hole)	-2628'	8505'			

**SEPCO STATE 30-23 #1-16H****2. PRESSURE CONTROL EQUIPMENT****a. Type:**

Interval	Equipment
0' – 1,640'	20" Diverter
1,640' – 5,340'	13 $\frac{5}{8}$ " x 5,000 psi WP rotating head 13 $\frac{5}{8}$ " x 5,000 psi WP annular BOP 13 $\frac{5}{8}$ " x 5,000 psi WP double-gate BOP with blind and pipe rams.
5,340' – 8,525'	11" x 2,000 psi WP rotating head 11" x 5,000 psi WP annular BOP, 11" x 10,000 psi WP double-gate BOP with blind and pipe rams 11" x 10,000 psi WP single gate BOP with pipe rams.

**b. Testing Procedure:**

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and at thirty (30) day intervals.
4. Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

**c. Choke Manifold Equipment:**

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration.

**d. Accumulator:**

Accumulator will have sufficient capacity to open a hydraulically controlled choke line valve, close all rams plus annular preventer, and retain a minimum of 200 psi above pre-charge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

**e. Miscellaneous Information:**

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole. A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the well bore and any existing production facilities.

**SEPCO STATE 30-23 #1-16H****3. PROPOSED CASING AND CEMENTING PROGRAM**

Casing Program: All new

Hole Size	Casing Size	Wt/Foot	Grade	Joint	Depth Set (MD-RKB)
24"	20"	Conductor	Line Pipe		0-60'
17.5"	13- $\frac{3}{8}$ "	54.50#	J-55	STC	0'- 1640'
12.25"	9- $\frac{5}{8}$ "	40#	HC P-110	LT&C	0-5340'
8.5"	7"	32#	HCP-110	GBCD	0-12,807'

**4. Cementing Program**

All slurries will be tested for compatibility, compression strengths, and pumping times based on actual job conditions

**Surface:** TOC at Surface (100 % excess)

Tail: 2254 ft<sup>3</sup> 1900 sx Premium Cement with 2% CaCl<sub>2</sub>

**1<sup>st</sup> Intermediate:** Top of Tail – 4400 ft Top of Lead – 620 ft Excess – 40%

Lead: 1584 ft<sup>3</sup> 880 sx Premium Cement with 6% D35 + 26 #/sx D20

Tail: 413 ft<sup>3</sup> 350 sx Premium Cement

Cement Properties	Lead	Tail
Slurry Weight (ppg)	12.82	15.60
Slurry Yield (ft <sup>3</sup> /sx)	1.80	1.18
Mix Water (gal/sx)	9.629	5.263

**Production Casing:** Top of Tail – 7052 ft Top of Lead – 4300 ft Excess – 40%

The Production Casing will be 7" 32 ppf HCP-110 with swell packers installed in the horizontal section and a cementing stage collar set at the heel. The lateral will remain uncemented. The stage collar will be utilized to isolate (with cement) from the top of the Cane Creek to inside the 9- $\frac{5}{8}$ " intermediate casing.

Lead: 473 ft<sup>3</sup> 285 sx Premium Cement with 26#/D35 + 6% D20 + 0.2% D800 + 0.1% D130

Tail: 182 ft<sup>3</sup> 170 sx Premium Cement with 0.2% D800 + 0.2% D065

Cement Properties	Lead	Tail
Slurry Weight (ppg)	13.20	16.40
Slurry Yield (ft <sup>3</sup> /sx)	1.66	1.07
Mix Water (gal/sx)	8.852	4.365



**SEPCO STATE 30-23 #1-16H****5. MUD PROGRAM**

Depth (MD)	Mud System	MW (ppg)	Fluid Loss
0-1,640'	Air/Mist	NA	NA
1,640' – 5,340'	Air / Mist/Aerated Water	NA	NA
5,340' – 8,052'	OBM	12.5 -14.5	5.0 (HPHT)
8,052' – 12,807'	OBM	12.5-14.5	5.0 (HPHT)

A Managed Pressure Drilling (MPD) providing Constant Bottom Hole Pressure will be utilized from the base of Intermediate casing to TD.

**6. EVALUATION PROGRAM**

Cores: None planned  
DST: None planned

Mud logger: From Surface Shoe to TD

Samples: 30 ft Samples from Surface to 5340 ft MD  
10 ft Samples from 5340 ft to TD

Open Hole Logging Program:

Run #1: 5340 ft – 1640 ft

GR-SP-DIL-SFL-ML  
GR-CALI-FDC/CNL  
FMI/Dipmeter  
Sonic (dipole)

Run #2: 8525 ft – 5340 ft

GR-SP-DIL-SFL-ML  
GR-CALI-FDC/CNL  
OBMI/UBMI  
Sonic (dipole)  
VSP or Check shot survey

**7. ABNORMAL CONDITIONS**

Bottomhole temperatures are estimated at  $\pm 145^{\circ}\text{F}$ .

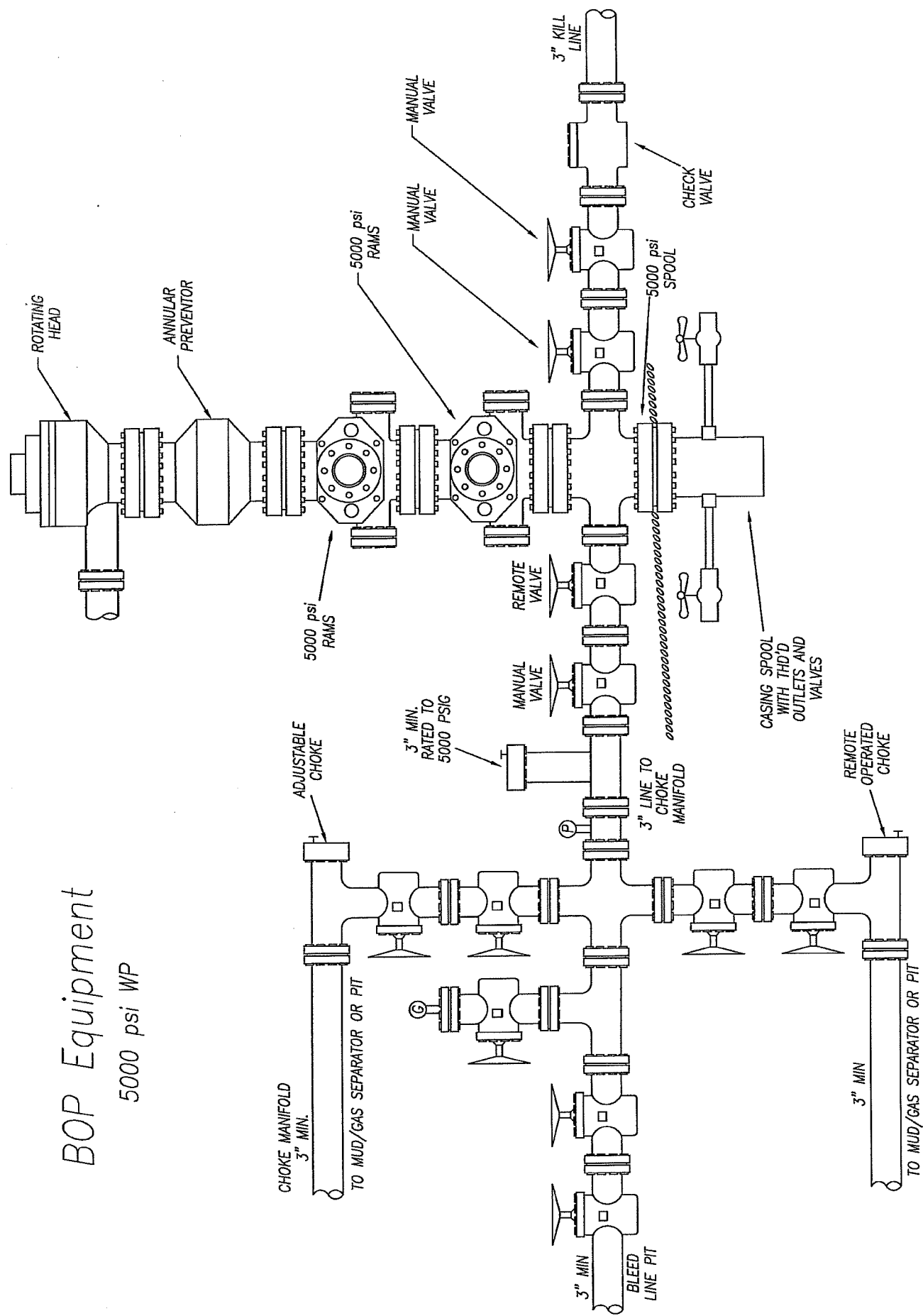
The maximum anticipated bottomhole pressure is expected to be 5900 psi at TD (7705 ft TVD-RKB).

H<sub>2</sub>S is not expected.

**8. ANTICIPATED STARTING DATES AND NOTIFICATIONS OF OPERATIONS**

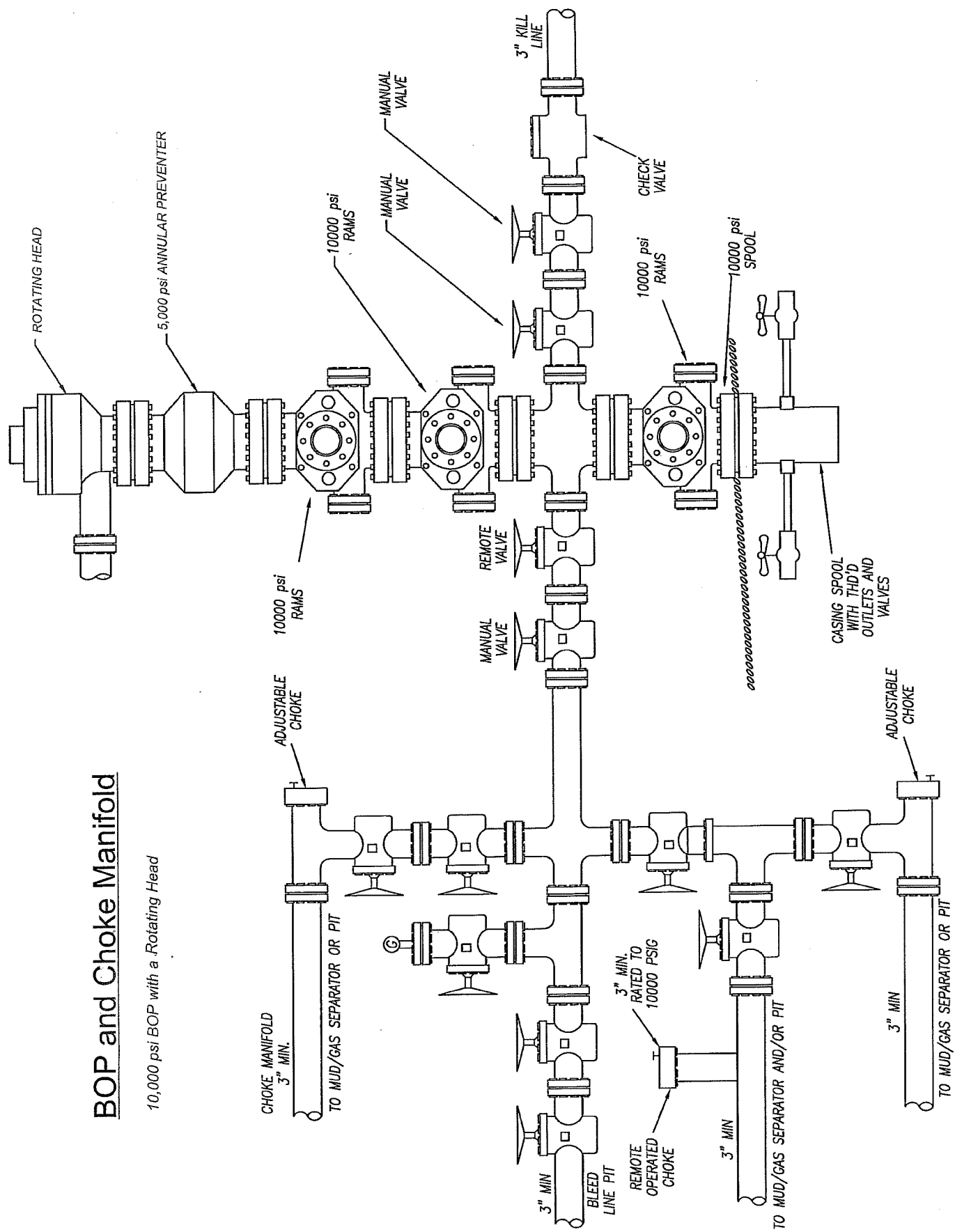
Location Start up: March 12, 2013  
Spud: March 30, 2013  
Duration: 50 – 75 days

*BOP Equipment*  
5000 psi WP



# BOP and Choke Manifold

10,000 psi BOP with a Rotating Head



## Southwestern Energy Company

## Proposed Drilling Program

Well : SEPCO STATE 30-23 #1-16h

Field : Prospect : PARADOX

County : SAN JUAN State : UT

Location : Section 16-30S-23E 796 ft FSL &amp; 412 ft FEL

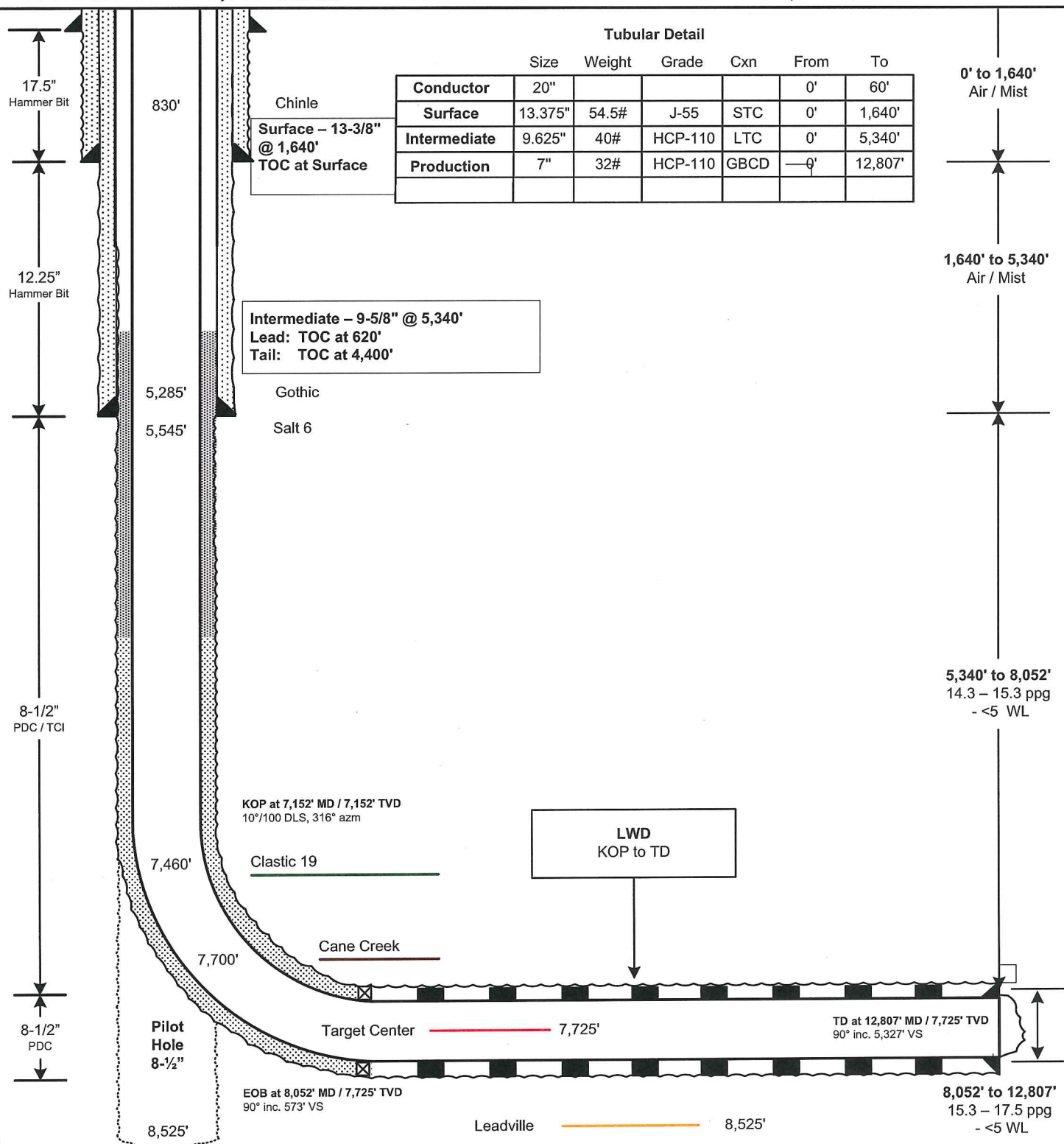
BHL : Section 16-30S-23E 660 ft FNL &amp; 1,130 ft FWL

KB Elev : 5,897 ft MSL KB : 20.0 ft AGL GL Elev : 5,877 ft MSL



Tubular Detail

	Size	Weight	Grade	Cxn	From	To
Conductor	20"				0'	60'
Surface	13.375"	54.5#	J-55	STC	0'	1,640'
Intermediate	9.625"	40#	HCP-110	LTC	0'	5,340'
Production	7"	32#	HCP-110	GBCD	0'	12,807'



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650			
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000			
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT			
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>6/1/2013</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. <div style="text-align: center; padding: 20px;">             H2S contingency plan attached.   <div style="text-align: right; color: red; font-weight: bold;">               Approved by the                Utah Division of                Oil, Gas and Mining             </div> <div style="text-align: right; color: red; font-weight: bold;">               Date: April 08, 2013                By: <u></u> </div> </div>					
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor			
<b>DATE</b> 4/8/2013					



# **Hydrogen Sulfide (H<sub>2</sub>S) Contingency Plan**

**For**

**SEPCO STATE 30-23 #1-16H**

**Southwestern Energy Production Company  
2350 N. Sam Houston Parkway East  
Suite 300  
Houston, Texas 77032**

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## **I. Introduction**

The following is a comprehensive H<sub>2</sub>S Contingency Plan for the drilling and completion operations of Southwestern Production Company in San Juan County, Utah.

This plan outlines the precautionary procedures that will be followed to insure the safe drilling and completion of the SEPCO State 30-23 #1-16H.

The zone in which H<sub>2</sub>S is anticipated is the Leadville formation which is expected at a depth of 8,405'. H<sub>2</sub>S monitoring equipment and emergency response equipment will be used within 500' of the zones known to contain H<sub>2</sub>S, including warning signs, wind indicators and H<sub>2</sub>S monitors.

### **a. Description of Hydrogen Sulfide Gas**

Hydrogen Sulfide (H<sub>2</sub>S) is a colorless, transparent gas with a distinct and characteristic rotten-egg odor at low concentrations. It is not detectable by odor at high concentrations. H<sub>2</sub>S at higher concentrations and/or over longer periods of exposure paralyzes the olfactory sense for that specific odor. The gas is extremely toxic to humans and can easily become dangerous and lethal. Extreme care and caution is needed to prevent injury and/or death. H<sub>2</sub>S has a specific gravity of 1.192 which is heavier than air. It tends, therefore, to accumulate in low places. This collection of gas can lead to dangerous concentrations in low lying areas. H<sub>2</sub>S from "down-hole" is often warmer than surface air and will therefore tend to rise and affect workers above the escaping source. It can be explosive and is water soluble.



## **II. Individual Responsibilities**

It is the responsibility of **all personnel** on the location to familiarize themselves with the procedures outlined in this contingency plan.

### **a. All Personnel**

- Responsible for his assigned safety equipment
- Responsible for familiarizing himself with the location of all safety equipment
- Responsible for reporting and indications of H<sub>2</sub>S to those in the area and to a supervisor.

### **b. Company Representative or Designated Back-up**

- Responsible for thoroughly understanding and seeing that all aspects of this contingency plan are enforced.
- Responsible for implementing all phases of this contingency plan
- Responsible for keeping a minimum of personnel on the location during expected hazardous operations
- Responsible for coordinating all well site operations and communications in the event that an emergency condition develops.
- Responsible for ensuring that all visitors receive an H<sub>2</sub>S Safety Orientation. A visitors log will be maintained as well as a list of all personnel on the location after drilling has progressed to the suspected H<sub>2</sub>S formation.

### **III. Safety Equipment**

**a. Hydrogen Sulfide Detectors and Alarms**

- H<sub>2</sub>S detectors with alarms on rig floor, bell nipple (or cellar), and at the shale shakers set at 10 ppm.
- The alarm system will be both audio and visual.

**b. Fresh Air Breathing Equipment**

- Adequate air packs shall be provided for all personnel on location
- If cascade system is installed, hose line units to the rig floor, the shale shaker, and to the mud mixing area.

**c. Wind Sock – Wind Streamers**

- (2) Two wind socks located at a height that is visible from the rig floor.
- Wind Streamers to be located at obvious locations on the well site and at the safety briefing areas.

**d. Sign and Condition Flags**

- Warning signs will be located at the lease road entrance with the following sets of flags indicating the following condition level

**CAUTION**

**POISON GAS CONDITION TODAY**

**GREEN – NORMAL OPERATIONS**

**YELLOW – POTENTIAL DANGER**

**RED – EXTREME DANGER**

**e. Flare Stack**

- (1) Flare stack may be installed with pilot source and automatic ignition

**f. Well Ignition**

- A flare gun shall be at rig at all times

**g. Mud – Gas Separator and Flare Line**

- Operational at compliance depth

**h. Remote BOP and Choke Control**

- Operational at compliance depth

**i. Blowout Prevention Equipment**

- Adequate BOP equipment for H<sub>2</sub>S service

#### **IV. Operating Procedures**

Prior to this H<sub>2</sub>S Contingency Plan being operational, all personnel that are to be involved with drilling operations will be thoroughly trained in the proper use of breathing apparatus, emergency procedures as well as H<sub>2</sub>S First Aid and rescue methods,

All well control events will be controlled using approved well control techniques.

Upon evidence that ambient H<sub>2</sub>S concentrations has reached 10 ppm, all non-essential personnel will be evacuated to the pre-determined safe area. Personnel remaining on the rig floor or mud pit areas will continue to control the well until the situation indicates the area is safe to re-enter.

## **V. Operating Conditions**

Operating Conditions are defined in three categories. A description of each of these conditions and the required action to be given below:

### **a. Normal Operating Condition**

Characteristic:	Normal drilling operation in zones which may contain H <sub>2</sub> S
Warning Flag:	Green
Alarms:	None
Probable Occurrence:	No detectable gas present at surface
Actions:	<ol style="list-style-type: none"><li>1) Safety Equipment location known and available</li><li>2) Safety equipment checked for proper function</li><li>3) Stay alert for condition changes</li><li>4) Follow instructions of Well Site Supervisor</li></ol>

### **b. Potential Danger**

Characteristic:	H <sub>2</sub> S present at concentrations less than 10 ppm
Warning Flag:	Yellow
Alarms:	Flashing Light at 10 ppm H <sub>2</sub> S Intermittent blasts on horn or siren at 10 ppm H <sub>2</sub> S
Probable Occurrence:	<ol style="list-style-type: none"><li>1) Drill or Trip Gas being circulated out</li><li>2) Well Control Operations</li><li>3) Equipment failure during operations</li></ol>
Actions:	<ol style="list-style-type: none"><li>1) Follow instructions of Well Site Supervisor</li><li>2) Put on breathing equipment if warranted or directed</li><li>3) Stay in "SAFE BREATHING AREA" if instructed and not Working to correct the problem</li><li>4) Initiate actions to reduce the H<sub>2</sub>S concentration to zero by the Well Site Supervisor</li></ol>

c. Extreme Danger

Characteristic:	H <sub>2</sub> S present at concentrations greater than 10 ppm. Critical Well operations or well control problems
Warning Flag:	Red
Alarms:	Flashing Light and continuous horn/siren at 10 ppm H <sub>2</sub> S
Probable Occurrence:	<ol style="list-style-type: none"><li>1) Drill or Trip Gas being circulated out</li><li>2) Well Control Operations</li><li>3) Equipment failure during operations</li></ol>
Actions:	<ol style="list-style-type: none"><li>1) Follow instructions of Well Site Supervisor</li><li>2) Put on breathing equipment if warranted or directed</li><li>3) Stay in "SAFE BREATHING AREA" if instructed and not working to correct the problem</li><li>4) Initiate actions to reduce the H<sub>2</sub>S concentration to zero by the Well Site Supervisor</li><li>5) All necessary operations will be conducted with a minimum number of personnel</li></ol>

## **VI. Emergency Procedures**

The procedures below apply to drilling and testing operations.

- a. In the event, during Normal Conditions, that H<sub>2</sub>S is detected, the Company Representative or his designated back-up will do the following:
  - Immediately determine the cause or source of the H<sub>2</sub>S and take steps to reduce the concentration to zero.
  - Order all non-essential personnel out of the potential danger zone.
  - Order all personnel to check their safety equipment for proper operation.
  - Increase gas monitoring activities with portable H<sub>2</sub>S detectors and continue operations with caution.
  - Display the Yellow Flag.
- b. In the event of any evidence of an H<sub>2</sub>S level above 10 ppm, the Company Representative or his designated back-up will assure the following steps are taken:
  - Display the Red Flag.
  - Order all personnel to don breathing equipment.
  - Order all non-essential personnel out of the potential danger zone.
  - Immediately determine the cause or source of the H<sub>2</sub>S and take steps to reduce the concentration to zero. If necessary, prepare the well to be shut in.

In the event of loss of well occurs:

- Order all personnel to a safe breathing area
  - Determine if the well should or could be ignited.
  - Notify public safety for establishment of roadblocks.
  - Evacuate public (if any) from area of exposure.
  - Proceed with the best plan, at the time, to regain control of the well while maintaining tight security and safety procedures.
- c. The Company Representative or his designated back-up shall:
    - Be responsible for the total implementation of this plan.
    - Be on location at all times while drilling in potential H<sub>2</sub>S zones.
    - Be in command during any emergency
    - Determine the condition level based on current conditions
    - Designate a back-up when required.
    - Insure the evacuation of the public (if any) in the area of exposure.

## **VII. Training Program**

All personnel associated with the drilling operations will receive training to insure efficient and correct action in all situations. The training will be in the general areas of: (1) personnel safety, (2) rig operations, and (3) well control procedures.

### **a. Personnel Safety Training**

All personnel shall have received H<sub>2</sub>S training in the following areas:

- Hazards and characteristics of H<sub>2</sub>S
- Effect on metal components of the system
- Safety Precautions
- Operation of safety equipment and life support systems
- Corrective action and shutdown procedures

### **b. Rig Operations**

All personnel shall have received H<sub>2</sub>S training in the following areas:

- Well Control procedures
- Layout and operations of the well control equipment

Note: Proficiency will be developed through BOP drills and documented by the Wellsite Supervisor.

### **c. Service Company Personnel**

All service personnel shall have been trained by their employers in the hazards and characteristics of H<sub>2</sub>S and the operation of safety equipment and life support systems.

### **d. Visitors**

All first time visitors to the location will be required to attend a safety orientation briefing. The Wellsite Supervisor shall be responsible for this orientation and documentation of the briefing.

### **e. Public**

Residents and responsible parties located within the area of exposure shall be advised of the following:

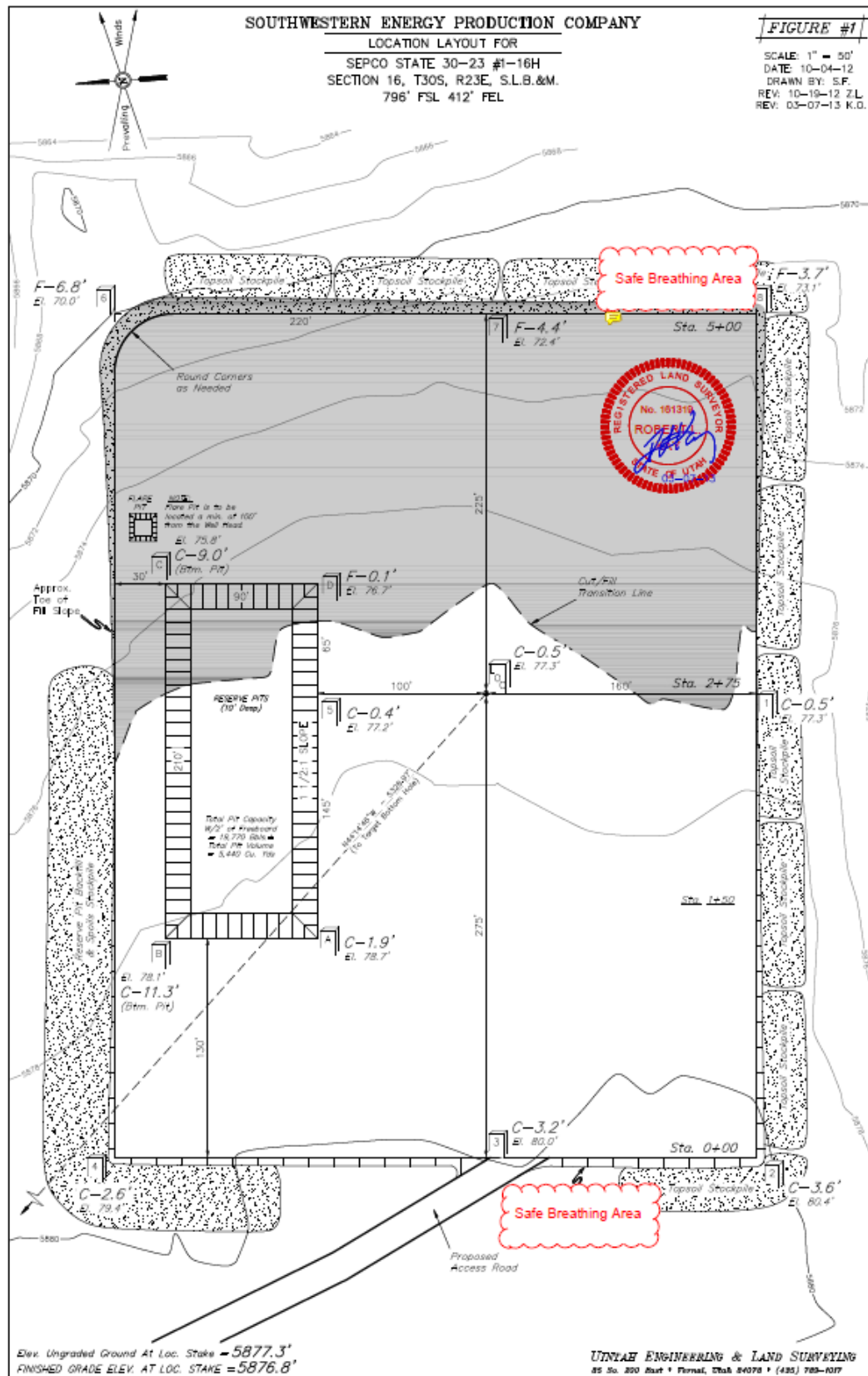
- Hazards and characteristics of Hydrogen Sulfide
- The necessity for an emergency action plan
- The possible sources of hydrogen sulfide within the area of exposure with emphasis on what specific action to take in an emergency.
- Instructions for reporting a gas leak.
- The manner in which the public will be notified of an emergency
- Steps to be taken in an emergency



**VIII. Emergency Phone Number List**

<b>Southwestern Energy Production Company Contacts</b>		
<b>Alan Grimsley</b>	<b>Drilling Engineer</b>	(C): 713-492-1657
<b>Alan Rice</b>	<b>Drilling Supertendent</b>	(C): 501-499-3247
<b>Joe Cox</b>	<b>Drilling Manager</b>	(C): 713-614-6544
<b>Wayne Holder</b>	<b>HSE Coordinator</b>	(C): 281-725-0390
<b>SHERIFF DEPARTMENTS</b>		
Grand County Sheriff		435-259-8115
San Juan County Sheriff		435-587-2237
<b>FIRE DEPARTMENTS</b>		
Moab Fire Dept		435-259-5557
Monticello Fire Dept		435-587-2237
<b>AMBULANCES</b>		
Ambulance		911
Grand County Ambulance		435-259-1341
San Juan County Ambulance		435-587-2237
<b>HOSPITALS</b>		
Allen Memorial Hospital	719 West 400 North; Moab	435-259-7191
Castle View Hospital (Price)	300 Hospital Drive, Price	435-637-4800
<b>County Emergency Response Contacts</b>		
Grand County Emergency Response		435-259-1377
San Juan County Road Department		435-587-3230

## IX. Location Layout



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
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<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
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<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>6/1/2013</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. We no longer intend to drill the pilot hole shown on the approved APD. We will only drill the horizontal portion as previously proposed. We will no longer drill down to the Leadville formation; therefore, the H2S contingency plan is no longer needed.		
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor
<b>DATE</b> 5/8/2013		<b>DATE:</b> May 09, 2013 <b>By:</b> <u><i>Derek Duff</i></u>

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 5/30/2013	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. SEPCO STATE 30-23 #1-16H was spud on Thursday, May 30, 2013 at 11:00 am utilizing Pete Martin Drilling, Inc. (Rig 10).		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> June 10, 2013		
<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/5/2013	

CONFIDENTIAL

## DIVISION OF OIL, GAS AND MINING

## SPUDDING INFORMATION

Name of Company; **SOUTHWESTERN ENERGY PRODUCTION COMPANY**

Well Name: SEPCO STATE 30-23#1-16H

Api No: 43-037-50040 Lease Type STATE

Section 16 Township 30S Range 23E County SAN JUAN

Drilling Contractor PETE MARTIN, JR RIG # \_\_\_\_\_

## SPUDDDED:

Date 05/30/2013

Time \_\_\_\_\_

How            **DRY**

**Drilling will Commence:** \_\_\_\_\_

Reported by **DON HAMILTON**

Telephone # 435-719-2018

Date 06/04/2013 Signed CHD

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**RECEIVED**

FORM 6

**JUN 20 2013**

**ENTITY ACTION FORM**

*DIV. OF OIL, GAS & MINING*

Operator: Southwestern Energy Production Company Operator Account Number: N 3925  
Address: 2350 N Sam Houston Parkway E  
city Houston  
state TX zip 77032 Phone Number: (281) 618-7414

**Well 1**

API Number	Well Name	QQ	Sec	Twp	Rng	County
4303750040	SEPCO STATE 30-23 #1-16H	SESE	16	30S	23E	San Juan
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
A		19075	6/13/2013		6/13/2013	
<b>Comments:</b> Conductor casing was set on 5/30/2013. The well was spud on 6/13/2013. <span style="float: right;">6/11/2013</span> CNCR bhl NWNW						

**Well 2**

API Number	Well Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
<b>Comments:</b>						

**Well 3**

API Number	Well Name	QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date	
<b>Comments:</b>						

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Amy Johnson

Name (Please Print)

*Amy Johnson*

Signature

Regulatory Supervisor

6/18/2013

Title

Date

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125 , Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/3/2013	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> July 05, 2013		
<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/3/2013	

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Drilling Chronological**

Well Name: Sepco State 30-23 #1-16									
Field Name:	N/A	S/T/R:	16/30N/23E	County, State:	San Juan, UT				
Operator:	SEPCO	Location Desc:		District:	N/A				
Project AFE:	1002307	AFEs Associated:	/ / /						
<b>Daily Summary</b>									
Activity Date :	6/7/2013	Days From Spud :	-7	Current Depth :	60 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:	Sunny and winds of 15-20 mph				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:				Cum DHC:			Total Well Cost:		
<b>Operations</b>									
Start	Hrs	Code	Remarks				Start Depth	End Depth	Run
6:00	24.00	01	MIRU, Nabors M-11 on Sepco State 30-23 #1-16H from Nabors yard in Grand Junction, Co. Approx. 155 miles.				60	60	NIH
Total:	24.00								
<b>Daily Summary</b>									
Activity Date :	6/8/2013	Days From Spud :	-6	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:					
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:				Cum DHC:			Total Well Cost:		
<b>Operations</b>									
Start	Hrs	Code	Remarks				Start Depth	End Depth	Run
6:00	24.00	01	MIRU, Nabors M-11 on Sepco State 30-23 #1-16H from Nabors yard in Grand Junction, Co. Approx. 155 miles.				80	80	NIH
Total:	24.00								
<b>Daily Summary</b>									
Activity Date :	6/9/2013	Days From Spud :	-5	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:					
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:				Cum DHC:			Total Well Cost:		
<b>Operations</b>									
Start	Hrs	Code	Remarks				Start Depth	End Depth	Run
6:00	24.00	01	MIRU, Nabors M-11 on Sepco State 30-23 #1-16H from Nabors yard in Grand Junction, Co. Approx. 155 miles.				80	80	NIH
Total:	24.00								
<b>Daily Summary</b>									
Activity Date :	6/10/2013	Days From Spud :	-4	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:	Sunny and winds of 15-20 mph				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:				Cum DHC:			Total Well Cost:		
<b>Operations</b>									
Start	Hrs	Code	Remarks				Start Depth	End Depth	Run
6:00	24.00	01	MIRU, Nabors M-11 on Sepco State 30-23 #1-16H from Nabors yard in Grand Junction, Co. Approx. 155 miles. Raised Derrick and Subs, set air pack and solids control equip				80	80	NIH
Total:	24.00								



Well Name: Sepco State 30-23 #1-16									
Field Name:	N/A		S/T/R:	16/30N/23E		County, State:	San Juan, UT		
Operator:	SEPCO		Location Desc:			District:	N/A		
Daily Summary									
Activity Date :	6/11/2013	Days From Spud :	-3	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:	Sunny and winds of 15-20 mph				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	24.00	01	MIRU, Nabors M-11 on Sepco State 30-23 #1-16H, Cont. R/U rig floor equip and Troubleshoot fault on drwks as well as pipe skate. Top Drive arrived on location Approx. 0200 hrs			80	80	NIH	
Total:	24.00								
Daily Summary									
Activity Date :	6/12/2013	Days From Spud :	-2	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:	Sunny and winds of 15-20 mph				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	5.00	01	Troubleshoot Drwks and Pipe skate			80	80	NIH	
11:00	2.00	01	R/U bridle lines			80	80	NIH	
13:00	5.00	01	Unload and install TD in derrick			80	80	NIH	
18:00	6.50	01	R/u and wire TD, function test same. Check mud pump operation			80	80	NIH	
0:30	2.50	01	Scope derrick and bridle down			80	80	NIH	
3:00	3.00	01	R/U mud lines, lights, and dress top drive w/ bails elevators, saver sub			80	80	NIH	
Total:	24.00								
Daily Summary									
Activity Date :	6/13/2013	Days From Spud :	-1	Current Depth :	80 Ft	24 Hr. Footage Made :	0 Ft		
Formation :				Weather:	Sunny and winds of 15-20 mph				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	5.00	08	Waiting on equipment for rig repair/Trouble shooting top drive			80	80	NIH	
11:00	7.00	34	Weld on riser-mount rotating head.Help air hands rig up.Load BHA on racks.			80	80	NIH	
18:00	2.00	44	Held Safety stand down identified safety hazards. Talked to all personnel on location about the importance of reporting problems. Did complete walk around location.			80	80	NIH	
20:00	10.00	34	Cut off riser to realign blouy line. Continue assembling blouy line. Rig up water to air jammers. Load HWDP & strap			80	80	NIH	
Total:	24.00								

Well Name: Sepco State 30-23 #1-16									
Field Name:	N/A		S/T/R:	16/30N/23E		County, State:	San Juan, UT		
Operator:	SEPCO		Location Desc:			District:	N/A		
Daily Summary									
Activity Date :	6/14/2013	Days From Spud :	1	Current Depth :	390 Ft	24 Hr. Footage Made :	277 Ft		
Formation :				Weather:	High today expected to be 99°. Low tonight 66°				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	5.00	34	install plugs on conductor, riser, hook up water lines to blouy line. Pick up hammer bit, & subs. Make up stand of HWD & stand back.			80	80	NIH	
11:00	1.00	30	Pick up 2 8" DC, install hammer bit & float sub			80	80	NIH	
12:00	1.00	08	Tong tourqe not functioning. Repair with electrician			80	80	NIH	
13:00	3.00	30	Pick up Bha & torque all connections.			80	80	NIH	
16:00	5.00	32	Wrong cross over (4.5IF connection to 6&5/8 reg.) Need 4.5 XH to 6&5/8 reg.			80	80	NIH	
21:00	5.50	02	Spud @21:00 6/13/2013 Drlg F/113 T/295			113	295	1	
2:30	0.50	10	Single shot survey @254 0.30 inc.			295	295	1	
3:00	3.00	02	Drl. F/295 T/390			295	390	1	
Total:	24.00								
Daily Summary									
Activity Date :	6/15/2013	Days From Spud :	2	Current Depth :	1440 Ft	24 Hr. Footage Made :	1050 Ft		
Formation :				Weather:	gh for today is 96 with a 20% chance of rain. Low tonight				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	9.00	02	Drlg F/390 T/945' 7-8k wob, 30 rpm, 345 spp, 3-5k torque			390	945	1	
15:00	1.00	07	Service Rig Tight connection/Lay down gaulded joint			945	945	1	
16:00	3.50	02	Drlf F/945 T/1136 7-8k wob, 30 rpm, 345 spp, 3-5k torque			945	1136	1	
19:30	0.50	10	Survey depth@ 1099 .38 inc.			1136	1136	1	
20:00	2.00	08	Over Torque & broke pins on IBOP clamp			1136	1136	1	
22:00	2.50	02	Drlg. F/1136 T/1232 (booster went down due to fuel filter			1136	1232	1	
0:30	0.50	08	Broke clamp bolts on Quill on top drive/ Over torque			1232	1232	1	
1:00	3.50	02	Drlg F/1232 T/1418 (put 4th compressor on line @ 2:30 am			1232	1418	1	
4:30	0.50	10	Survey depth @ 1383 .41 inc.			1418	1418	1	
5:00	1.00	02	Drlg F/1418 T/1440 w/ 7-10k wob, 30 rpm, 450 spp,			1418	1440	1	
Total:	24.00								

Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/16/2013	Days From Spud :	3	Current Depth :	1619 Ft	24 Hr. Footage Made :	179 Ft
Formation :			Weather:	High for today 99. Tonight 68			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:			Cum DHC:			Total Well Cost:	

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	3.50	02	Drig. F/1454 T/ 1619 (30 rpm 8k wob 464psi air)	1440	1619	1
9:30	1.00	36	Last 3 ft. had fast P rate. @ approx. 1580 ft. water started increasing F/ approx. 50bbl. pr. hour to 120 bbl. pr. hour.Hammer watered out @1619 & lost circ. Stuck pipe @ 1610 on full connection.	1619	1619	1
10:30	1.50	36	Tried to jar down. No success. Jar up 10 times & freed pipe. Work pipe & unload hole Observed pea gravel while unloading hole.	1619	1619	1
12:00	5.00	43	Start laying down DP. Pumping out.Connections extremely tight. Over torqued, up to 50K ft/lbs to break connections,	1619	1619	1
17:00	2.00	43	Able to get off fo top drive & continue laying down 1 joint at a time. Continued tight connections.Layed down 12 HWDP & 28 joints DP.	1619	1619	1
19:00	1.50	43	Stand back collars	1619	1619	1
20:30	1.50	48	Lay down hammer bit & tools	1619	1619	1
22:00	1.00	08	Work on Top Drive. Do motor ID run on Top Drive. Test torque.	1619	1619	NIH
23:00	1.50	21	Change out & strap HWDP & DP. Strap all.	1619	1619	NIH
0:30	1.00	07	Service Rig Change out saver sub	1619	1619	NIH
1:30	1.00	42	Pick up new bit, sub & 8" collar	1619	1619	2
2:30	3.50	42	Trip in hole. Picking up DP to 1402	1619	1619	2
Total:	24.00					

## Daily Summary

Activity Date :	6/17/2013	Days From Spud :	4	Current Depth :	1802 Ft	24 Hr. Footage Made :	183 Ft
Formation :			Weather:	Todays high 99 Tonights low 63			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:			Cum DHC:			Total Well Cost:	

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	1.00	05	Circ. & condition (pump 20bbl sweep) @1400 ft.	1619	1619	2
7:00	1.50	42	Sweep displace with air. Tag up @1595. Pump 25 bbl. sweep Displace with air. Wash to bottom @1619'- 24 ft. of fill. Pump sweep on bottom.	1619	1619	2
8:30	3.00	02	Drilling F/1619 T/1802 (35K WOB 85 RPM 224 PSI) hole making approx. 40 bph	1619	1802	2
11:30	0.50	07	Service Top Drive & Grease	1802	1802	2
12:00	0.50	05	Circ & pump 30 bbl. Sweep (displace with air)	1802	1802	2
12:30	0.50	05	Displace with air	1802	1802	2
13:00	2.50	08	Top Drive over torqued connection. Clamp pins broke @ Quill while trying to break out. Lay down 2 joints to get top drive in position to work on.	1802	1802	2
15:30	3.00	05	Pick up 2 jts. & wash to bottom. Tagged up @ 1782' - 20' of fill. Displace with air. Turn off air.Pump sweep. Spot Polyswell. Cicr. Surface to surface.Got water returns after 228 bbl. pumped.	1802	1802	2
18:30	1.50	43	Trip out F/1802 to Bit	1802	1802	2
20:00	1.50	48	Break down bit - bell sub -& bit sub & lay down.	1802	1802	2
21:30	1.50	34	Held safety meeting with Wyoming Casing. All personnel in attendance. Rig up & run 43 joints of 13.375" 54.5 lb. J55 casing.	1802	1802	NIH
23:00	6.00	12	Tag fill on last joint #43 Tag fill @1787. Had 15' of fill. Ran shoe- 1jnt.-float collar & 42 jnts. Total of 43 jnts. 29 bow spring cent. & 2 cmt. Baskets. Filled pipe 6 times going in. Good returns. Cmt. baskets@ 352' & 1006'.	1802	1802	NIH
5:00	0.50	34	Install cmt. Swege in last joint. Rigging up halliburton chicksons to pump to bottom.	1802	1802	NIH
5:30	0.50	05	Wash 15' of fill to btm @ 1802'	1802	1802	NIH
Total:	24.00					

Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/18/2013	Days From Spud :	5	Current Depth :	1802 Ft	24 Hr. Footage Made :	0 Ft
Formation :		Weather:	High today 100 Low tonight 70				
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	1.00	34	Rig down Wyoming casing while circ.	1802	1802	NIH
7:00	0.50	44	Held pre job safety meeting with Halliburton	1802	1802	NIH
7:30	0.50	34	Rig up Halliburton	1802	1802	NIH
8:00	2.50	45	Cement as follows, Pressure test lines. Pumped 10bbl. Of Water spacer -20bbl of Super flush - 10bbl of water spacer -285.5 bbl (675 sks) Lead @ 12.0ppg with 2.4 yield. 133.4bbl of tail @ 13.0 ppg with 1.85 yield. Displaced with 272 bbl of water. Bumped plug w/ 875 psi, 500 psi over final circ. pressure Held for 5 min. bleed back 1.25 bbls. " Note" 145 bbl cmt returns back to surface. Full returns throughout process.	1802	1802	NIH
10:30	0.50	34	Rig down Halliburton.	1802	1802	NIH
11:00	3.00	41	Remove first section of blooie line, turn buckles & made rough cut of conductor. Found cmt had fallen.	1802	1802	NIH
14:00	1.50	45	Perform top job with 45 sks =75' @ 15.8 ppg, 9.2 bbls. No fall back	1802	1802	NIH
15:30	2.50	34	Lay down mouse hole,conductor,caing slips & elevators, Bail extensions & lay over V door.	1802	1802	NIH
18:00	2.50	41	Finish cutting off conductor. Cut off 13&3/8 & dress out, pump out cellar	1802	1802	NIH
20:30	3.00	21	Dress out & weld on casing head. Test casing head to 1000 psi. Good test.	1802	1802	NIH
23:30	6.50	14	Nipple up 13&5/8 5K BOP	1802	1802	NIH
Total:	24.00					

## Daily Summary

Activity Date :	6/19/2013	Days From Spud :	6	Current Depth :	1802 Ft	24 Hr. Footage Made :	0 Ft
Formation :		Weather:	Todays High 99 Low 64				
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	2.50	14	Install rotating head, discovered top of annular not 2 holed with btm of annular. Remove rotating head and modify same while continue to N/U bop	1802	1802	NIH
8:30	10.00	14	Cont. N/U BOP, Choke and Kill valves, install control hose fittings and hoses, C/O damaged fittings on hoses, Function tested BOP, install choke coflex hose	1802	1802	NIH
18:30	1.50	34	Install V-door for pipe skate	1802	1802	NIH
20:00	1.50	34	P/U test string, install test plug, fill stack w/ water Rig up tester.	1802	1802	NIH
21:30	3.00	15	Testing BOP & related equipment.Test 2 TIW valves. Retest Inside manual choke valve.	1802	1802	NIH
0:30	1.00	74	HCR Failed. Remove HCR & make up manual choke & continue testing. Manual Choke leaked in manifold house.	1802	1802	NIH
1:30	2.00	15	Testing choke manifold blinds IBOP Super choke primary, secondary valves all good. 5000 High 250 Low	1802	1802	NIH
3:30	1.00	74	Failure in Goose neck on stand pipe. Replacing seal in connecting union.Continue testing.	1802	1802	NIH
4:30	1.50	15	Testing pipe rams, annular	1802	1802	NIH
Total:	24.00					

Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/20/2013	Days From Spud :	7	Current Depth :	1802 Ft	24 Hr. Footage Made :	0 Ft
Formation :	Chinle		Weather:	ezy, with a light south southwest wind becoming southw			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	0.50	15	Test 4" Standpipe, 250 Low/ 5000 High Jumper Hose Failed @ 3500 psi,Discovered Standpipe Union Leaking at Gooseneck	1802	1802	NIH
6:30	1.00	15	RD Tester, Remove Jumper Hose	1802	1802	NIH
7:30	0.50	08	Remove Choke Hose From Stack, Prep To Install New HCR Valve	1802	1802	NIH
8:00	1.00	21	Change Rotating Head Rubber, Place Rotating Head Rubber On Stand of HWDP	1802	1802	NIH
9:00	0.50	08	Hold PJSM On Removing Stand Pipe From Derrick	1802	1802	NIH
9:30	12.50	08	Remove Stand Pipe From Derrick, Install New HCR Valve and Choke Line To BOP While Waiting On Welder, Replace Hammer Unions on Standpipe, Hang Standpipe, Install New Jumper Hose	1802	1802	NIH
22:00	1.00	21	RU Test Truck, Test Surface Casing to 1810psi, Hold For 30 Minutes, Test Good	1802	1802	NIH
23:00	1.00	21	PU Test Joint, Install Test Plug, Fill Stack	1802	1802	NIH
0:00	3.50	15	Test BOPE 250 Low/5000 High, Test HCR, Choke Line & Standpipe	1802	1802	NIH
3:30	2.50	21	Attatch Blooie Line, Install Wear Bushing and Mouse Hole, Prep to PU BHA	1802	1802	NIH
Total:	24.00					

## Daily Summary

Activity Date :	6/21/2013	Days From Spud :	8	Current Depth :	2563 Ft	24 Hr. Footage Made :	761 Ft
Formation :	Chinle		Weather:	with a south southeast wind 5 to 10 mph becoming sou			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	5.00	30	Pick Up 12.25" BHA, Numa Hammer Tool, Surface Test Hammer Tool, Roller Reamer, Collars	1802	1802	3
11:00	1.00	42	TIH F/BHA T/849', Install Rotating Head	1802	1802	3
12:00	0.50	64	Inspect Blooie Line Anchors, Unload Hole	1802	1802	3
12:30	0.50	07	Lubricate Rig	1802	1802	3
13:00	1.00	42	TIH F/849' T/1707', Unload Hole	1802	1802	3
14:00	2.00	37	Tagged Cement @ 1743', Wash & Ream Cement T/1753', Drill Cement & Float Equipment F/1753' T/1802'	1802	1802	3
16:00	1.00	02	Mist Drill F/1802' T/1834', 5-8k WOB, 30RPM, 275PSI	1802	1834	3
17:00	1.00	10	WLS @ 1800', Inc. 0.34°	1834	1834	3
18:00	7.50	02	Mist Drill F/1834' T/2341', (507') 6-8k WOB, 30 RPM, 3-8K Torque, 291 PSI, 67.6 Ft/Hr Avg ROP	1834	2341	3
1:30	1.00	10	WLS @ 2309', Inc. 0.16°	2341	2341	3
2:30	2.75	02	Mist Drill F/2341' T/2545', (204') 6-8k WOB, 30 RPM, 3-8K Torque, 345 PSI, 74 ft/Hr Avg ROP, Returns Surging, Blow Hole Clean	2341	2545	3
5:15	0.25	64	Blow Hole Clean	2545	2545	3
5:30	0.50	02	Mist Drill F/2545' T/2563', (18') 6-8k WOB, 30 RPM, 3-8K Torque, 345 PSI	2545	2563	3
Total:	24.00					

Well Name: Sepco State 30-23 #1-16									
Field Name:	N/A		S/T/R:	16/30N/23E		County, State:	San Juan, UT		
Operator:	SEPCO		Location Desc:			District:	N/A		
Daily Summary									
Activity Date :	6/22/2013	Days From Spud :	9	Current Depth :	3023 Ft	24 Hr. Footage Made :	460 Ft		
Formation :	Chinle			Weather:	with a south southeast wind 5 to 10 mph becoming sou				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	3.50	02	Mist Drill F/2563' T/2849', (286') 6-8k WOB, 30 RPM, 3-8K Torque, 345 PSI, CFM - 3750, 25 GPM Water, 8 Gal/Hr Soap, 82 Ft/Hr Avg			2563	2849	3	
9:30	0.50	07	Lube Rig			2849	2849	3	
10:00	0.50	10	WLS @ 2817', 0.48° Inc. "Note" When Trip Back to Btm. After Survey, No Fill			2849	2849	3	
10:30	4.00	02	Mist Drill F/2849' T/2951', (102') 6-8k WOB, 30 RPM, 3-8K Torque, 345 PSI, CFM - 3900, 25 GPM Water, 8 Gal/Hr Soap, 25.5 Ft/Hr Avg. Water Increase T/ 80-100 BPH @ Approx. 2922', (Hammer Watered Out)			2849	2951	3	
14:30	0.50	05	Blow Hole Clean, Prep for TOH Due to Reduced ROP/ Water			2951	2951	3	
15:00	3.00	43	TOH T/BHA			2951	2951	3	
18:00	2.00	21	Inspect Bit (No Damaged Buttons) Test Fire Hammer (Good), LD Hammer Tool and Roller Reamer			2951	2951	NIH	
20:00	4.00	30	Pick Up Motor BHA, 12 1/4" Smith GF30B, 4.0_7/8 Motor, 12 1/8" Stabilizers at 30' and 60', Reposition Jars			2951	2951	4	
0:00	0.75	42	TIH F/BHA T/1725'			2951	2951	4	
0:45	0.25	64	Unload Hole, Unload Approx 50BBL Water with 3500CFM @ 400psi			2951	2951	4	
1:00	0.25	42	TIH F/1725' T/2289'			2951	2951	4	
1:15	0.50	64	Unload Hole w/3500CFM 520psi			2951	2951	4	
1:45	0.25	42	TIH F/2289' T/2877'			2951	2951	4	
2:00	0.50	64	Unload Hole w/3500CFM 620psi			2951	2951	4	
2:30	0.50	37	Wash & Ream F/2877' T/Btm @ 2951', 26' of Fill			2951	2951	4	
3:00	0.25	02	Mist Drill F/2951' T/2963', (12') 25-30k WOB, 50 RPM, 3-5K Torque, 800-1250 PSI, CFM - 3900, 25 GPM Water, 6 Gal/Hr Soap, 48Ft/Hr Avg. Pressure Increased to 1250psi, Unable to Unload Hole While Drilling, PU Off Bottom			2951	2963	4	
3:15	0.25	64	Unload Hole, 3900CFM, 1250psi, Line Up Pumps, Prep to Drill With Aerated Fluid			2963	2963	4	
3:30	0.75	05	Establish Circulation with Aerated Fluid, 2250CFM, 270GPM			2963	2963	4	
4:15	1.75	02	Drill with Aerated Fluid F/2963' T/3023, (60') 25-30k WOB, 50 RPM, 1-16K Torque, 675 PSI, CFM - 2250, 400GPM, 10 GPM Mist Water, 6 Gal/Hr Soap, 34Ft/Hr Avg.			2963	3023	4	
Total:	24.00								

Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/23/2013	Days From Spud :	10	Current Depth :	3830 Ft	24 Hr. Footage Made :	807 Ft
Formation :	Chinle		Weather:	h a south southeast wind 5 to 10 mph becoming south s			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	5.50	02	Drill with Aerated Fluid F/3023' T/3354', (331') 30-35k WOB, 70-85 RPM, 2-4K Torque, 675 PSI, CFM - 1900, 400GPM, 10 GPM Mist Water, 2 Gal/Hr Soap, 66Ft/Hr Avg.	3023	3354	4
11:30	0.50	05	Circulate Hole Clean, 1900CFM, 400GPM	3354	3354	4
12:00	0.50	10	WLS @ 3291', Inc. 1.02°	3354	3354	4
12:30	5.50	02	Drill with Aerated Fluid F/3354' T/3546', (192') 30-35k WOB, 85-100 RPM, 2-4K Torque, 675 PSI, CFM - 1900, 400GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 35Ft/Hr Avg.	3354	3546	4
18:00	0.75	07	Lubricate Rig	3546	3546	4
18:45	0.75	02	Drill with Aerated Fluid F/3546' T/3573', (27') 30-35k WOB, 85-100 RPM, 2-4K Torque, 650 PSI, CFM - 2200, 425GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 36Ft/Hr Avg. Drilling Break @ 3563'	3546	3573	4
19:30	0.25	05	Circulate Hole Clean, 1900CFM, 430 GPM	3573	3573	4
19:45	8.25	02	Drill with Aerated Fluid F/3573' T/3830', (257') 30-35k WOB, 85-100 RPM, 2-4K Torque, 650 PSI, CFM - 2200, 430GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 30 Ft/Hr Avg.	3573	3830	4
4:00	1.00	05	Circulate Hole Clean, 950CFM, 430 GPM	3830	3830	4
5:00	1.00	10	WLS @ 3770', Inc. 1.16°	3830	3830	4
Total:	24.00					

## Daily Summary

Activity Date :	6/24/2013	Days From Spud :	11	Current Depth :	4296 Ft	24 Hr. Footage Made :	466 Ft
Formation :	Chinle		Weather:	reezy, with a southeast wind 5 to 10 mph becoming sou			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	0.50	05	Establish Circulation with Aerated Fluid After Survey	3830	3830	4
6:30	5.50	02	Drill with Aerated Fluid F/3830' T/4023', (193') 35k WOB, 85-100 RPM, 2-4K Torque, 650 PSI, CFM - 2200, 430GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 35 Ft/Hr Avg.	3830	4023	4
12:00	0.50	07	Lubricate Rig.	4023	4023	4
12:30	0.50	05	Establish Returns with Aerated Fluid	4023	4023	4
13:00	1.50	02	Drill with Water F/4023' T/4034', (11') 35k WOB, 85 RPM, 2-4K Torque, 975 PSI, 550GPM, 7.3 Ft/Hr Avg.	4023	4034	4
14:30	0.50	08	Generators Over Heated and Died. Restart Generators	4034	4034	4
15:00	1.50	02	Drill with Aerated Fluid F/4034' T/4100', (66') 35k WOB, 85 RPM, 2-4K Torque, 650 PSI, CFM - 2200, 430GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 26.4 Ft/Hr Avg.	4034	4100	4
16:30	1.00	08	Generators Died, Restart Generators, Top Drive Lost Communication, Reboot Top Drive	4100	4100	4
17:30	2.50	02	Drill with Water F/4100' T/4135', (35') 35k WOB, 85 RPM, 2-4K Torque, 975 PSI, 75GPM, 14 Ft/Hr Avg.	4100	4135	4
20:00	1.50	08	Generators Died, Restart Generators, Reset Top Drive, Establish Circulation	4135	4135	4
21:30	3.50	02	Drill with Water F/4135' T/4194', (59') 35k WOB, 85 RPM, 2-4K Torque, 1100-1400 PSI, 600-720 GPM, 16.8 Ft/Hr Avg.	4135	4194	4
1:00	3.00	02	Drill with Aerated Fluid F/4194' T/4272', (78') 35k WOB, 85 RPM, 2-4K Torque, 650 PSI, CFM - 2200, 430GPM, 10 GPM Mist Water, 0 Gal/Hr Soap, 26 Ft/Hr Avg.	4194	4272	4
4:00	2.00	02	Drill with Water F/4272' T/4296', (24') 35k WOB, 105 RPM, 2-5K Torque, 1200 PSI, 570 GPM, 12 Ft/Hr Avg.	4272	4296	4
Total:	24.00					



Well Name: Sepco State 30-23 #1-16									
Field Name:	N/A		S/T/R:	16/30N/23E		County, State:	San Juan, UT		
Operator:	SEPCO		Location Desc:			District:	N/A		
Daily Summary									
Activity Date :	6/25/2013	Days From Spud :	12	Current Depth :	4612 Ft	24 Hr. Footage Made :	316 Ft		
Formation :	Chinle			Weather:	near 93. West southwest wind 10 to 15 mph, with gusts				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	2.50	02	Drill with Water F/4296' T/4341', (45') 35k WOB, 105 RPM, 2-5K Torque, 1200 PSI, 570 GPM, 18 Ft/Hr Avg.			4296	4341	4	
8:30	0.50	05	Circulate Hole Clean, 580 GPM, 110RPM, 1200PSI			4341	4341	4	
9:00	1.00	10	WLS @ 4278', Inc. 0.61°			4341	4341	4	
10:00	4.50	43	TOH F/4278' T/Bit,			4341	4341	4	
14:30	0.50	48	LD Bit, Drain Mud Motor			4341	4341	NIH	
15:00	0.50	30	Pick Up 12.25" Hughes Insert Bit			4341	4341	5	
15:30	5.00	42	TIH F/Bit T/4341'			4341	4341	5	
20:30	1.50	02	Drill with Water F/4341' T/4403', (62') 35-40k WOB, 85-105 RPM, 2-5K Torque, 1080 PSI, 550 GPM, 41.3 Ft/Hr Avg.			4341	4403	5	
22:00	0.50	07	Lubricate Rig			4403	4403	5	
22:30	7.50	02	Drill with Water F/4403' T/4612', (209') 40k WOB, 100 RPM, 2-5K Torque, 1080 PSI, 550 GPM, 27.8 Ft/Hr Avg.			4403	4612	5	
Total:	24.00								
Daily Summary									
Activity Date :	6/26/2013	Days From Spud :	13	Current Depth :	5055 Ft	24 Hr. Footage Made :	443 Ft		
Formation :	Ismay			Weather:	high near 97. South southeast wind 5 to 15 mph becoming				
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11				
Daily Cost:			Cum DHC:			Total Well Cost:			
Operations									
Start	Hrs	Code	Remarks			Start Depth	End Depth	Run	
6:00	1.50	02	Drill with Water F/4612' T/4650', (38') 40-45k WOB, 100 RPM, 2-5K Torque, 1080 PSI, 550 GPM, 25.3 Ft/Hr Avg.			4612	4650	5	
7:30	1.00	08	While Bringing Generator Online Rig Blacked Out, Restart Generators, Establish Circulation			4650	4650	5	
8:30	6.50	02	Drill with Water F/4650' T/4789', (139') 40-45k WOB, 100 RPM, 2-5K Torque, 1080 PSI, 550 GPM, 21.3 Ft/Hr Avg.			4650	4789	5	
15:00	0.50	08	Change Swab on Mud Pump #1			4789	4789	5	
15:30	3.25	02	Drill with Water F/4789' T/4854', (65') 40-45k WOB, 100 RPM, 2-5K Torque, 1080 PSI, 550 GPM, 20 Ft/Hr Avg.			4789	4854	5	
18:45	0.25	05	Circulate Hole Clean, 550GPM, 100 RPM, 1200PSI			4854	4854	5	
19:00	1.00	10	WLS @ 4790', Inc. 0.96°			4854	4854	5	
20:00	2.25	05	Perform Hydrostatic Test, Take Pump Rates, 60 SPM @ 400 PSI, 70 SPM @ 520 PSI, 80 SPM @ 650 PSI with Full Returns, Line Up To Take Returns Through Choke and Panic Line to Reserve Pit, Close Annular, Take Pump Rates Through Full Open Choke, 60 SPM @ 440 PSI, 70 SPM @ 574 PSI, 80 SPM @ 725 PSI, Full Returns with 8.6 PPG EMV, Pump @ 80 SPM while Holding 175 PSI Back Pressure On Choke, Well taking Fluid @ Approx. 3 BPM with 9.3 PPG EMW, Approximately 360 BBL Water Lost			4854	4854	5	
22:15	7.75	02	Drill with Water F/4854' T/5055', (201') 45k WOB, 100 RPM, 2-5K Torque, 1128 PSI, 550 GPM, 25.9 Ft/Hr Avg.			4854	5055	5	
Total:	24.00								



Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/27/2013	Days From Spud :	14	Current Depth :	5442 Ft	24 Hr. Footage Made :	387 Ft
Formation :	Chimney Rock		Weather:	gh near 98. East northeast wind 5 to 10 mph becoming s			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	0.50	02	Drill with Water F/5055' T/5075', (20') 45k WOB, 100 RPM, 4-5K Torque, 1151 PSI, 550 GPM, 40 Ft/Hr Avg. Chlorides 3500	5055	5075	5
6:30	0.50	07	Lubricate Rig	5075	5075	5
7:00	7.00	02	Drill with Water F/5075' T/5302', (227') 45k WOB, 100 RPM, 4-5K Torque, 1151 PSI, 550 GPM, 32.4 Ft/Hr Avg.	5075	5302	5
14:00	0.50	03	Generators Died From Uneven Load When Bringing Mud Pump #2 Online	5302	5302	5
14:30	3.00	02	Drill with Water F/5302' T/ TD @ 5442', (140') 45k WOB, 100 RPM, 4-5K Torque, 1151 PSI, 740 GPM, 46.7 Ft/Hr Avg., Parameters Changed @ 5412', Increased Torque, Decreased ROP	5302	5442	5
17:30	1.50	05	Circulate Hole Clean, 750 GPM, 100 RPM, 2077 PSI, Confirm TD with Geologist, Chlorides 90,000	5442	5442	5
19:00	2.00	43	TOH F/5442' T/2200'	5442	5442	5
21:00	2.00	05	Perform Hydrostatic Test, Take Pump Rates, 70 SPM @ 409 PSI, 80 SPM @ 520 PSI, 90 SPM @ 640 PSI with Full Returns, Line Up To Take Returns Through Choke and Panic Line to Reserve Pit, Close Annular, Take Pump Rates Through Full Open Choke, 70 SPM @ 490 PSI, 80 SPM @ 606 PSI, 90 SPM @ 745 PSI, Full Returns with 8.7 PPG EMV, Pump @ 90 SPM while Holding 175 PSI Back Pressure On Choke, Well taking Fluid @ Approx. 2-3 BPM with 9.4 PPG EMW, Approximately 280 BBL Water Lost	5442	5442	5
23:00	1.75	42	TIH F/2200' T/5411', Tag Fill, (31') Wash to Bottom @ 5442'	5442	5442	5
0:45	0.75	05	Circulate Hole Clean, 800 GPM, 80 RPM, 2337 PSI	5442	5442	5
1:30	3.00	43	TOH F/5442' T/BHA	5442	5442	5
4:30	1.50	48	Stand Back Collars, LD Stabilizers	5442	5442	5
Total:	24.00					

## Daily Summary

Activity Date :	6/28/2013	Days From Spud :	15	Current Depth :	5442 Ft	24 Hr. Footage Made :	0 Ft
Formation :	Chimney Rock		Weather:	with a high near 102. East northeast wind around 5 mph			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	0.50	48	Lay down 12.25" Stabs & Bit	5442	5442	5
6:30	2.00	32	Wait on Slb Wireline truck to arrive on Location	5442	5442	NIH
8:30	0.50	44	Hold PJSM on logging open hole	5442	5442	NIH
9:00	11.50	11	Logging Run #1 PPC, MSIP, PPC, GPIT, PEX, AIT, ECS, Well Took 209 BBLS While Logging, RD Wireline	5442	5442	NIH
20:30	0.50	07	Lubricate Rig	5442	5442	NIH
21:00	1.50	21	Pull Wear Bushing, Clear & Clean Rig Floor, Load Centralizers, Well Took 35 BBL	5442	5442	NIH
22:30	0.25	44	Hold PJSM On Rigging Up Wyoming Casing Crew	5442	5442	NIH
22:45	1.25	34	RU CRT, and Casing Crew, Well Took 22 BBL, Added Bucket Of Poly Swell	5442	5442	NIH
0:00	0.25	44	Hold PJSM on Running Casing	5442	5442	NIH
0:15	1.25	12	MU Float and Shoe Trac, Pump Through Same, Test Good	5442	5442	NIH
1:30	4.50	12	Run Casing F/84' T/2647'	5442	5442	NIH
Total:	24.00					

Well Name:Sepco State 30-23 #1-16					
Field Name:	N/A	S/T/R:	16/30N/23E	County,State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

## Daily Summary

Activity Date :	6/29/2013	Days From Spud :	16	Current Depth :	5442 Ft	24 Hr. Footage Made :	0 Ft
Formation :	Chimney Rock		Weather:	Mostly sunny and hot, with a high near 98. East southeas			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	6.00	12	Continue running 9 5/8" 40.0# HCP-110 Casing F/ 2647' T/ 5368' Wash F/ 5368' T/ 5419' W/ 25 Rpm, 250 Gpm, 6000 Ft/lbs, Had fill F/ 5419' T/ 5442' Bottom (23'), Installed Cmt Baskets @ 2800' & 4700', Average MU Torque 9900 Ft/Lbs	5442	5442	NIH
12:00	5.50	05	Circ @ 5442' With casing on bottom W/ 250 Gpm, 20 Rpm, Tq 4500 Ft/lbs While Waiting on Halliburton, Equipment Arrived @ 13:30, Final Load Of Cement Arrived @ 17:00	5442	5442	NIH
17:30	0.50	44	Hold Safety Meeting On Cementing with all Involved Personnel	5442	5442	NIH
18:00	1.00	21	32' of Stickup On Landing Jt. Cut Casing to Be Able to Drop Plugs From Floor Safely	5442	5442	NIH
19:00	4.50	45	Pressure Test Lines to 4000psi, Pump 40bbl Mud Flush Ill Spacer, Followed by 584 bbl (1100 sks) Lead @ 11.5 ppg with 2.98 Yield. Followed By 167 bbl (750 sxs) of Tail @ 14.4 ppg with 1.25 yield. Displaced with 409 bbl of Water. Bumped Plug w/ 1713 psi, 500 psi Over Final Circulating Pressure. Pressure Held for 5 min. Bed Back 4 bbl, Floats Holding. 20 bbl Cement Returned to Surface, No Fall Back, Rotate and Reciprocate the Entire Job. Wash Stack and Lines, RD Cementers, Mix, Pump and Displace Cement @ 8 BPM	5442	5442	NIH
23:30	6.50	28	ND Blooie Line, Lower Slips Through Stack, Set Slips with 300k or 75k Over String Weight, Lift BOP, Inspect Slips, Slips Setting 1 1/4" Above Well Head, Lower BOP, Reset Slips with 300k or 75k Over String Weight, Raise BOP, Inspect Slips, Slips Set, Rough Cut Casing	5442	5442	NIH
Total:	24.00					

## Daily Summary

Activity Date :	6/30/2013	Days From Spud :	17	Current Depth :	5442 Ft	24 Hr. Footage Made :	0 Ft
Formation :	Chimney Rock		Weather:	erstorms after 11am. Mostly sunny and hot, with a high			
Rig Company :	NABORS DRILLING		Rig Name:	NABORS M11			
Daily Cost:		Cum DHC:		Total Well Cost:			

## Operations

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	5.50	28	L/D 9 5/8" Rough cut jt, Nipple Down 13 5/8" 5K Bop's, Used pole truck to move Bop's & move pipe skate W/ V-door out of the way	5442	5442	NIH
11:30	3.50	14	Make final cut on 9 5/8" casing, N/up Seaboard 13 5/8"5M x 11"10M tubing head & test same to 2800 psi, hold for 15 min.Good test	5442	5442	NIH
15:00	15.00	14	Move 11" 10m BOPs Under sub with pole truck, P/up BOPs with Rigs P/up lines, Set in pipe skate & V-door, N/up Bops, Hang HCR Valves & Halliburton MPD Equipment. Install Halliburton Rotating Head, Rotating Head mis aligned with Flow Line, Turn Annular for Alignment, Tighten Flanges, Raise V-Door, Change IBOP, Hook Up Accumulator Lines	5442	5442	NIH
Total:	24.00					

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML51650
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
		7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Oil Well		8. WELL NAME and NUMBER: SEPCO STATE 30-23 #1-16H
2. NAME OF OPERATOR: SOUTHWESTERN ENERGY PRODUCTION COMPANY		9. API NUMBER: 43037500400000
3. ADDRESS OF OPERATOR: 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		9. FIELD and POOL or WILDCAT: WILDCAT
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0796 FSL 0412 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		COUNTY: SAN JUAN
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 8/5/2013	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 August 07, 2013

NAME (PLEASE PRINT) Amy Johnson	PHONE NUMBER 281 618-7414	TITLE Regulatory Supervisor
SIGNATURE N/A		DATE 8/5/2013

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:	16/30N/23E				County, State:	San Juan, UT					
Operator:	SEPCO				Location Desc:					District:	N/A					
Daily Summary																
Activity Date :	7/1/2013		Days From Spud :	18		Current Depth :	5442 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Chimney Rock					Weather:	and variable wind becoming north 5 to 10 mph in the aft									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	4.00	14	Change Out IBOP on Top Drive, Hook Up Accumulator Lines, Function Test BOPs, Blind Rams On Top of Double Ram Set, HCR Only Opening 70%							5442	5442	NIH				
10:00	4.00	14	Open Bonnet Doors, Clean Rams & Install 4.5" Pipe Rams On Top and & Blind Rams on Bottom of Double Ram Set, Close Bonnet Doors, Unable to Get Bolt Started on Top Ram Door Body.							5442	5442	NIH				
14:00	2.00	08	Found Slightly Damaged Threads On Upper Pipe Ram Top Bolt, Clean Threads, Use Impact and Torque Wrench To Screw In Bolt							5442	5442	NIH				
16:00	8.00	15	Test BOPE, Floor Valves, Standpipe and Mud Lines To 250 Low/ 5000 High, Test BOP to 250 Low/10,000 High, Test Annular to 250 Low/3500 High							5442	5442	NIH				
0:00	2.00	08	Replace HCR Valve On Choke Side of BOP							5442	5442	NIH				
2:00	0.50	15	Test New HCR and Choke Manifold 250 Low/ 10,000 High, When Pressuring Up On Choke Manifold and HCR, Coflex Hose Running From The BOP to Choke Manifold Parted at 10,000psi							5442	5442	NIH				
2:30	2.50	08	Remove Parted Coflex, Add Hardline, Replace Coflex Hose, Tighten Flanges							5442	5442	NIH				
5:00	1.00	15	Test Choke Manifold, 250 Low/10000 High							5442	5442	NIH				
Total:	24.00															
Daily Summary																
Activity Date :	7/2/2013		Days From Spud :	19		Current Depth :	5442 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Chimney Rock					Weather:	mostly sunny and hot, with a high near 100. East wind 5									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	2.50	15	Test super choke, HCR valve, Inner & Outside 2" kill lines, Rig down Cameron testers, Close casing valves & Bull plug same							5442	5442	NIH				
8:30	11.50	14	Install orbital valve on rotating head flange, Hang both sections of flow line, Hook Up Rotating Head Lines, Install Mouse Hole, Install Wear Bushing							5442	5442	NIH				
20:00	0.50	21	Clean Up Sub Area, Pick Up Tools							5442	5442	NIH				
20:30	1.00	21	Load BHA and HWDP On Racks, Clear Rig Floor, Strap HWDP							5442	5442	NIH				
21:30	2.50	48	LD 8" Collars, Motor and 3 Stands of 6" Collars							5442	5442	NIH				
0:00	5.00	30	Pick Up 8.5" BHA, 8.5" Hughes Bit, 7/8 5.0, 0.75°, Dial Motor, Scribe Same, PU HWDP							5442	5442	6				
5:00	1.00	21	TIH T/1112', Install Rotating Head, Center Stack							5442	5442	6				
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
5442	1:00	12.60	0.00	55	14	13	6/7/0	0.0	5.0	0	2.00	16.0%	20.0%	64.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	355	0.00	0.00	204337	0	0.00	76/24	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	0.0	97	LGS=			RPM; 600=41, 300=27, 200=21, 100=15, 6=6, 3=5									

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/3/2013		Days From Spud :	20		Current Depth :	5453 Ft		24 Hr. Footage Made :	11 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Chimney Rock						Weather:	a high near 100. North wind 5 to 10 mph increasing to 1								
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	0.75	21	Center BOPS over hole								5442	5442	6			
6:45	0.75	10	Shallow test MWD ok								5442	5442	6			
7:30	2.50	42	TIH F/ 1112' T/ 5210'								5442	5442	6			
10:00	0.50	37	Wash & Ream F/ 5210' T/ 5339' ( 129' ) Started taking Wt.								5442	5442	6			
10:30	0.50	05	Circ Bottoms up @ 5336' W/ 465 GPM								5442	5442	6			
11:00	3.00	21	Rig up Halliburton Stand pipe to floor, Hold PJSM on testing casing, Test lines to 4200 psi good, First casing test pump H2O @ 1/4 bbl increments after pumping 1.5 bbl psi was almost 1000 psi noticed connection on DP & TIW valve leaking on rig floor, Bleed off all psi. Re Torque connections on subs, Second test stage up in 1/4 bbl increments to 3058 psi total bbls pumped 4.0, after 5 minutes of holding 3058 psi pressure dropped from 3058 to 2761 psi ( 297 psi ) all at once. Held the 2761 psi for 30 minutes ending psi was 2721 ( 40 psi drop ) Bleed off 3.5 bbls H2O, Rig down subs on floor.								5442	5442	6			
14:00	1.00	21	Surface test Halliburton PMD equipment to 2000 psi with rigs pump, Found one leak on low torque valve changed out same, Retest lines 2000 psi hold 10 min good test								5442	5442	6			
15:00	1.00	37	Drill out shoe track F/ 5339' T/ 5443' W/ 400-450 Gpm, 25 Rpm & 10-15 WOB								5442	5442	6			
16:00	0.50	02	Drill new formation F/ 5443' T/ 5453' W/ 30 Rpm, 450 Gpm & 15 WOB								5442	5453	6			
16:30	0.50	05	Circ bottoms up @ 5453' W/ 450 Gpm								5453	5453	6			
17:00	2.50	20	Tie in Halliburton, Hold PJSM on FIT, Perform FIT, Pump 1/4 bbl Increments, Hold For 2 Min, Record Pressures, Pump a Total Of 3.85 BBL @ 2747psi for an 18 ppg Equivalent, Bleed Back 1 BBL, Bleed Off Pressure, RD Halliburton								5453	5453	6			
19:30	4.50	10	Hold PJSM with Gyro Data, RU Wireline Unit, Run Gyro, RD Gyro Data, Empty and Clean Pits, Change Leaking Valve on Slugging Pit while Running Gyro								5453	5453	6			
0:00	2.50	21	Fill Pits With OBM, Rian For Rent Transfer Pump Went Down, Fill Pits With Hopper Pump								5453	5453	6			
2:30	1.50	05	Displace w/12.6ppg OBM								5453	5453	6			
4:00	0.25	44	Hold Safety Meeting With Halliburton MPD, Discuss Making Connections								5453	5453	6			
4:15	1.00	05	Circulate Through Halliburton MPD, Condition Mud to Drilling Properties, Simulate Connection With MPD, Verify MPD Equipment Is Working, Connection Started Leaking at Saver Sub & Drill Pipe								5453	5453	6			
5:15	0.50	21	LD JT, Inspect Saver Sub, File Burr Down, PU new JT Drill Pipe								5453	5453	6			
5:45	0.25	05	Take Slow Pump Rates								5453	5453	6			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
5453	2:30	12.65	0.00	55	15	16	6/7/0	0.0	6.0	0	2.00	16.0%	20.0%	64.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	449	0.00	0.00	205436	0	0.00	76/24	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	0.0	84	LGS=			RPM; 600=41, 300=31, 200=23, 100=16, 6=7, 3=6									

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/4/2013		Days From Spud :	21		Current Depth :	6735 Ft		24 Hr. Footage Made :	1282 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Clastic						Weather:	Partly sunny, with a high near 95.								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	0.50	44	Hold Safety Meeting With Halliburton MPD, Discuss Making Connections with day light crew										5453	5453	6	
6:30	6.00	02	Drill from 5453' to 5782' ( 329' ) W/ 12-15K WOB, GPM-500,60- 80-RPM, TQ 5-6K										5453	5782	6	
12:30	0.50	05	Circ bottoms up @ 5782' top of Clastic 6 formation W/ 500 GPM & 25 Rpm max gas 44 units mud wt 11.7 ppg no mud cut.										5782	5782	6	
13:00	4.00	02	Drill from 5782' to 5974' ( 192' ) W/ 12-15K WOB, GPM-500,60- 80-RPM, TQ 5-6K										5782	5974	6	
17:00	0.50	07	Rig Service										5974	5974	6	
17:30	9.00	02	Drill from 5974' to 6545' ( 571' ) W/ 12-15K WOB, GPM-500, 60- 80-RPM, TQ 3-6K										5974	6545	6	
2:30	0.50	07	Rig Service										6545	6545	6	
3:00	3.00	02	Drill from 6545' to 6735' ( 190' ) W/ 12-15K WOB, GPM-500, 60- 80-RPM, TQ 3-6K										6545	6735	6	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
6468	0:15	11.70	11.70	43	12	12	6/5/			0	2.00	18.0%	16.0%	66.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	610	0.00	0.00	250129	0	0.00	80/20	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	110	LGS=	RPM; 600=36, 300=24, 200=18, 100=13, 6=6, 3=5											

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/5/2013		Days From Spud :	22		Current Depth :	6875 Ft		24 Hr. Footage Made :	140 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Clastic					Weather:	High near 98. South wind 5 to 10 mph									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	2.00	02	Drill from 6735' to 6875' ( 140' ) W/ 12-15K WOB, GPM-500, 60- 80-RPM, TQ 3-6K Avg Rop 70' Hr.								6735	6875	6			
8:00	2.50	05	Circ Hole clean @ 6875' W/ 500 Gpm & 30 Rpm, Shut pumps down & Flow Checked well for 15 min no flow, Pump 30 bbl Slug @ 13.7 ppg shakers clean								6875	6875	6			
10:30	3.00	43	TOH F/ 6875' T/ 6570' ( 305' From bottom ) Starting to drag worked pipe up to 30k over normal P/up wt. Pipe free going down, Third attempt P/up to 40k over string wt. Could not get pipe free going down, Attempted to find a free spot to circulate, start pump @ 1 bbl a minute could not circulate only wanted to pressure up to max Psi 400, Worked pipe down from 6570' T/ 6592' ( 22' ) Can not go up or down , Start pump up @ 1 bbl min & get circulation pressure around 500 psi above normal with 11.7 Ppg mud wt. Circulation psi 650 Psi @ 1 Bbl min. Discuss next step with Drilling eng & Drilling Supt.								6875	6875	6			
13:30	0.50	05	Pressure up on backside W/ Halliburton MPD holding 350 psi & Rig pump pumping @ 1 bbl min @ 650 psi = 1000 psi Equivalent to 13.0 ppg, After 5 minutes of holding 1000 psi started working pipe down with 25 Rpm 10,000 ft/lbs & 75,000 string wt going down pipe came free, Worked Gpm up to 500 Gpm, 80 Rpm Working pipe F/ 6738' T/ 6628'								6875	6875	6			
14:00	1.00	05	Circ Bottoms up W/ 500 Gpm & 80rpm. Bottoms up was clean.								6875	6875	6			
15:00	0.50	42	Strip in hole F/ 6738' T/ 6875' Holding 430 Psi Equal of 13.0 Ppg								6875	6875	6			
15:30	5.00	05	Circ @ 6875' W/ 500 Gpm & 40 Rpm. While raising mud wt From 11.7 To 12.7 Ppg.								6875	6875	6			
20:30	1.00	43	Flow check. No flow. TOH f/6875' t/6540'. Pulled tight.								6875	6875	6			
21:30	2.75	37	Stage up pump and establish circulation and rotation. 400 gpm, 60rpm. Wash & ream f/6540' t/6446' and back to 6540'. Shut down pumps and rotary and pull to 6261'. Tight. Work free and establish circulation and rotation. 400 gpm, 60rpm. Wash & ream f/6261' t/6058', pulling each stand through without pumps or rotary after reaming up & down. Pull f/6058 t/5907'. Tight. Work free and establish circulation and rotation. 400 gpm, 60rpm. Wash & ream f/5907' t/5869', pulling through without pumps or rotary after reaming up & down.								6875	6875	6			
0:15	0.75	43	TOH f/5869' t/5423'. 20' Above 9 5/8" shoe.								6875	6875	6			
1:00	0.50	05	Circulate bottoms up								6875	6875	6			
1:30	3.50	43	Flow check. No flow. Pump slug. Change out rotating rubber. TOH f/5423' t/BHA								6875	6875	6			
5:00	1.00	48	Lay down Jars, Collars and BHA								6875	6875	6			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
6875	0:15	12.70	12.70	46	14	13	7/9/			0	2.00	20.4%	14.0%	65.6%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	718	0.00	0.00	283652	0	0.00	82/18	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	0.0	97	LGS=			RPM; 600=41, 300=27, 200=21, 100=14, 6=7, 3=6									



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/6/2013		Days From Spud :	23		Current Depth :	6958 Ft		24 Hr. Footage Made :	83 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Clastic					Weather:	Mostly cloudy and hot, high near 97									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	1.00	48	Finish laying down verticle hole BHA tools, Mtr, Stab & Hughes PDC 505 Bit came out full gauge								6875	6875	6			
7:00	1.50	30	P/up Steerable Curve BHA W/ 6.75" 4_5 7 stage 1.75" fixed 8.25" housing stab OD, Bit Security MMD64 TFA 1.49, Scribe same								6875	6875	7			
8:30	2.00	30	P/up 24 jts 4.5" DP For Push Pipe & 7 Jts 4.5" HWT DP for more weight								6875	6875	7			
10:30	1.00	42	TIH F/ 1061' T/ 2074'								6875	6875	7			
11:30	0.50	05	Fill Pipe & Tighten turnbuckles on BOPS								6875	6875	7			
12:00	2.00	42	TIH F/ 2074' T/ 5475'								6875	6875	7			
14:00	2.50	10	Install rotating head W/new element, C/out transducer on flow line, Test MWD good test								6875	6875	7			
16:30	2.50	09	Cut 87' of drill line								6875	6875	7			
19:00	0.50	42	TIH f/ 5475' t/5988. No tight spots								6875	6875	7			
19:30	0.50	07	Service rig. Rewrap drilling line on drum								6875	6875	7			
20:00	2.00	42	TIH t/6750. Wash last stand down. Get SPR. Perform BOP drill								6875	6875	7			
22:00	3.25	02	Drill curve f/6875' t/6912. (37)' 450gpm, 5-15wob. (11.4'/hr avg)								6875	6912	7			
1:15	1.50	21	Change out swab in #1 mud pump								6912	6912	7			
2:45	3.25	02	Drill curve f/6912' t/6958'. (46)' 450gpm, 5-15wob. (14.1'/hr avg)								6912	6958	7			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
6904	0:30	12.90	12.90	48	15	14	7/8/			0	2.00	21.0%	14.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	822	0.00	0.00	290818	0	0.00	82/18	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	0.0	109	LGS=			RPM; 600=44, 300=29, 200=23, 100=16, 6=7, 3=6									



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/7/2013		Days From Spud :	24		Current Depth :	7245 Ft		24 Hr. Footage Made :	287 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Clastic						Weather:	Partly sunny, with a high near 95. North wind 5 to 10 mp								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	3.00	02	Drill curve F/ 6958' T/ 7009'. ( 51' ) 450gpm, 8-15wob. (17 '/hr avg)										6958	7009	7	
9:00	1.00	05	Cycled mud pumps, Attempted to get survey, Blew Pop off on #1 mud pump @ 3500 psi, Rebuild Pop off valve. Circ with 380 Gpm while repairing Pop Off Valve, Continue with survey										7009	7009	7	
10:00	9.00	02	Drill curve F/ 7009' T/ 7162'. (153' ) 490gpm, 8-15wob. (17 '/hr avg)										7009	7162	7	
19:00	0.50	21	1/2" Plug failure in ported 1502 hammer union flange on Halliburtons diverter equipment. Shut down, replace with blank flange.										7162	7162	7	
19:30	2.50	02	Drill curve F/ 7162' T/ 7216'. (54' ) 460-490gpm, 8-15wob. (21.6 '/hr avg)										7162	7216	7	
22:00	1.50	05	Circulate as per Geologist.										7216	7216	7	
23:30	0.25	02	Drill curve F/ 7216' T/ 7232'. (16' ) 460gpm, 10wob. (64 '/hr avg)										7216	7232	7	
23:45	0.25	05	Circulate and rack back stand to troubleshoot and repair mud pump.										7232	7232	7	
0:00	4.50	08	Troubleshoot and repair mud pump. Pumps not responding to driller controls. Pace Tech removed bolts from couplers and performed motor ID runs to set parameters to correct settings. Bolt couplers back together and test run pumps. Blew pop offs due to wrong nails installed. Rebuild pop off.										7232	7232	7	
4:30	1.50	02	Drill curve F/ 7232' T/ 7245'. (13' ) 480gpm, 5-10wob. (8.7 '/hr avg)										7232	7245	7	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
7231	0:30	12.90	12.90	44	17	13	7/9/			0	2.00	23.0%	13.0%	64.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	920	0.00	0.00	320707	0	0.00	83/17	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	113	RPM; 600=47, 300=30, 200=24, 100=14, 6=7, 3=6												

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/8/2013		Days From Spud :	25		Current Depth :	7709 Ft		24 Hr. Footage Made :	464 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Clastic						Weather:	y sunny, with a high near 91. East southeast wind 5 to 1								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	7.50	02	Drill curve F/ 7245' T/ 7405'. ( 160' ) 480 gpm, 10-15 wob. ( 21.3 '/hr avg )										7245	7405	7	
13:30	0.50	05	Circ bottoms up @ 7405' W/ 480 Gpm looking for Clastic #19 formation										7405	7405	7	
14:00	1.00	02	Drill curve F/ 7405' T/ 7427'. ( 22' ) 480 gpm, 10-15 wob. ( 22 '/hr avg )										7405	7427	7	
15:00	0.50	05	Circ bottoms up @ 7427' W/ 480 Gpm, Identified Clastic #19 formation top @ 7405' MD - 7350' TVD										7427	7427	7	
15:30	1.00	02	Drill curve F/ 7427' T/ 7437'. ( 10' ) 480 gpm, 10-15 wob. ( 10 '/hr avg )										7427	7437	7	
16:30	0.50	05	Circ bottoms up @ 7437' W/ 480 Gpm										7437	7437	7	
17:00	0.50	02	Drill curve F/ 7437' T/ 7455'. ( 18' ) 480 gpm, 10-15 wob. ( 38 '/hr avg )										7437	7455	7	
17:30	0.50	05	Circ bottoms up @ 7455' W/ 480 Gpm, while on conference call with superintendent, engineer, geologist. Satellites down. Mud logger computer down. Gas detector not communicating with rig watch.										7455	7455	7	
18:00	10.75	02	Drill curve F/ 7455' T/ 7709'. ( 254' ) 480 gpm, 10-15 wob. ( 23.6 '/hr avg )										7455	7709	7	
4:45	1.25	21	Change out swab in #2 mud pump										7709	7709	7	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
7656	0:30	13.00	13.00	45	15	16	7/9/			0	2.00	24.0%	13.0%	63.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	928	0.00	0.00	253431	0	0.00	83/17	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	126	RPM; 600=46, 300=31, 200=25, 100=17, 6=7, 3=5												

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:			16/30N/23E			County, State:			San Juan, UT			
Operator:	SEPCO			Location Desc:						District:			N/A			
Daily Summary																
Activity Date :	7/9/2013		Days From Spud :	26		Current Depth :	8028 Ft		24 Hr. Footage Made :	319 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Clastic					Weather:	Sunny, with a high near 96									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	0.50	02	Drill curve F/ 7709' T/ 7718'. ( 9' ) 480 gpm, 10-15 wob. ( 18.0 '/hr avg )								7709	7718	7			
6:30	4.50	08	NPT 4.5 hours, Top Drive brakes not holding, Circ bottoms up Stand back one stand Trouble shoot same, Bleed air from hydraulics, Tested brakes to 18000 ft lbs good test, Solution not identified								7718	7718	7			
11:00	4.50	02	Drill curve F/ 7718' T/ 7805'. ( 87' ) 480 gpm, 10-15 wob. (19.3 '/hr avg )								7718	7805	7			
15:30	8.00	08	NPT 7.5 Hrs Circ bottoms up Stand back one stand off bottom. Troubleshoot top drive braks with Nabors electrician. Brake problem worse. Call out Top Drive mechanic. Circulate bottoms up and work pipe. Troubleshoot while waiting on mechanic. Changed valve solenoid and J Box. Replaced valve. Reset flex I/O cards on TD. Brakes working again. Circulate bottoms up and work pipe. Top drive mechanic arrived and double checked the repairs. Brake fixed.								7805	7805	7			
23:30	2.50	02	Drill curve F/ 7805' T/ 7851'. ( 46' ) 480 gpm, 10-15 wob. ( 18.4 '/hr avg ). +70° projection at bit achieved.								7805	7851	7			
2:00	2.25	02	Drill tangent f/7851 t/7965'. (114') 480gpm, 5-15 wob. 25rpm ( 51 '/hr avg ). Controlled rop								7851	7965	7			
4:15	0.25	21	Change out cap gasket in #2 mud pump.								7965	7965	7			
4:30	1.50	02	Drill tangent f/7965' t/8028'. (63') 480gpm, 5-15 wob. 25rpm ( 42 '/hr avg ). Controlled rop								7965	8028	7			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
7864	1:00	13.00	13.00	47	17	16	8/9/			0	2.00	24.0%	12.5%	63.5%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	980	0.00	0.00	301553	0	0.00	84/16	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	113	RPM; 600=50, 300=33, 200=25, 100=17, 6=8, 3=7												

Well Name: Sepco State 30-23 #1-16															
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT						
Operator:	SEPCO			Location Desc:				District:	N/A						
Daily Summary															
Activity Date :	7/10/2013		Days From Spud :	27		Current Depth :	8376 Ft		24 Hr. Footage Made :	348 Ft					
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11								
Formation :	Cane Creek					Weather:	Sunny and hot, with a high near 97.								
Operations															
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run			
6:00	1.50	02	Drill tangent f/ 8028' t/ 8068'. (40') 480gpm, 5-15 wob. 25rpm ( 26.6 '/hr avg ). Controlled rop @ 50' Hr.							8028	8068	7			
7:30	0.50	05	Circ bottoms up @ 8068' W/ 480 Gpm 100% salt							8068	8068	7			
8:00	0.50	02	Drill tangent f/ 8068' t/ 8079'. (10') 480gpm, 5-15 wob. 25rpm, Controlled rop @ 50' Hr.							8068	8079	7			
8:30	0.50	05	Circ bottoms up @ 8079' W/ 480 Gpm 95% salt & 5% shale							8079	8079	7			
9:00	0.50	02	Drill tangent f/ 8079' t/ 8089'. (10') 480gpm, 5-15 wob. 25rpm, Controlled rop @ 50' Hr.							8079	8089	7			
9:30	1.50	05	Circ bottoms up @ 8089' W/ 480 Gpm 95% salt & 5% shale							8089	8089	7			
11:00	0.50	07	Rig service							8089	8089	7			
11:30	1.00	08	NPT 1 Hr. Went to break out of conn on top drive, conn broke above saver sub, used tongs to break out of jt, Removed quill, Re torqued conn & installed new clamp							8089	8089	7			
12:30	0.50	02	Drill tangent f/ 8089' t/ 8102'. (13') 480gpm, 5-15 wob. 25rpm, Controlled rop @ 50' Hr. ( Note @ 8097' diff psi increased & Wob increased also )							8089	8102	7			
13:00	1.00	05	Circ bottoms up @ 8102' W/ 480 Gpm 95% salt & 5% shale							8102	8102	7			
14:00	0.50	02	Drill tangent f/ 8102' t/ 8129'. ( 27' ) 480gpm, 5-15 wob. 25rpm, Controlled rop @ 50' Hr.							8102	8129	7			
14:30	1.00	05	Circ bottoms up @ 8129' W/ 480 Gpm 95% salt & 5% shale							8129	8129	7			
15:30	1.00	02	Drill tangent f/ 8129' t/ 8155'. ( 26' ) 480gpm, 5-15 wob. 25rpm, Controlled rop @ 50' Hr. ( NOTE Torque Increased Diff psi came up Rop Decreased @ 8132' MD 7665' TVD )							8129	8155	7			
16:30	0.50	05	Circ bottoms up @ 8155' W/ 480 Gpm 75% shale, 15% dolomite, 10% anhydrite @ 8,132' MD							8155	8155	7			
17:00	3.50	02	Drill curve F/ 8155' T/ 8218'. ( 63' ) 480 gpm, 10-15 wob. ( 18 '/hr avg ). Experienced drilling break @ 8210'. Increase in ROP, Decrease in diff and torq							8155	8218	7			
20:30	0.75	05	Circ bottoms up @ 8218' W/ 480 Gpm 25% dolomite, 45% shale, 30% anhydrite							8218	8218	7			
21:15	7.00	02	Drill curve F/ 8218' T/ 8376'. (158' ) 480 gpm, 10-15 wob. ( 22.6 '/hr avg ). Landed @ 8,376' MD 7,697' TVD w/bit projection @ 88°							8218	8376	7			
4:15	0.25	05	Begin circulating for trip.							8376	8376	7			
4:30	0.50	21	Change out cap gasket in #2 mud pump							8376	8376	7			
5:00	1.00	05	Circulate hole clean for trip							8376	8376	7			
Total:	24.00														
Mud Properties															
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand
8310	0:30	13.00	13.00	46	17	18	8/9/			0	2.00	24.0%	12.0%	64.0%	0.0%
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss	
0.0	0.00	0.00	0.00	0.00	0	0	1015	0.00	0.00	320160	0	0.00	84/16	0	
Water Loss	LCM	ECD	FL Temp	Remarks											
0	0.0	0.0	131	RPM; 600=52, 300=35, 200=26, 100=17, 6=7, 3=6											

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/11/2013		Days From Spud :	28		Current Depth :	8376 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Cane Creek						Weather:	High near 92. South wind 10 to 15 mph								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	1.50	05	Finish circ hole clean @ 8376' MD W/ 490 Gpm & 40 Rpm working pipe 35' slow with 13.2 ppg mud wt in & out shakers clean										8376	8376	7	
7:30	1.00	43	Line up down flowline, Flow check well 15 min no flow, TOH wet 6 Stands F/ 8376' T/ 7810' ( 566' ) Max overpull seen 30k @ top of stand # 6 ( 69 DEGREES ) tight work on tight spot pulling 30k overpull each time @ 7810' no progress after 5 attempts no issues breaking pipe down each time ( NOTE Had to break out of stand #4 with rig tongs ST-80 would not break conn ) ( Well took 2.8 bbl on 6 stands short trip )										8376	8376	7	
8:30	1.00	42	TIH F/ 7810' T/ 8336' no issues TIH Well taking correct displacement										8376	8376	7	
9:30	1.00	05	Wash & Ream F/ 8336' T/ 8376' ( 40' ) No fill seen Circ W/ 490 Gpm & 40 Rpm seen 130 units gas from bottoms up, Shakers clean only fine silt, Mud Wt 13.2 ppg, Circulating down flow line										8376	8376	7	
10:30	6.50	43	Mud wt in & out 13.2 ppg, Flow check well 15 min down flow line no flow TOH F/ 8376' T/ 7425' @ 45' min wet (385' ) above tight spot after short trip was @ 7810', Check flow ok pump 40 bbl slug @ 15.2 ppg, good slug continue TOH F/ 7425' T/ 5412' ( 2013' ) Max overpull seen through curve 15k, Max seen through verticle hole 10k, Check flow ok, Remove rotating head, Will replace rubber with new on next trip in hole, well taking correct fills, continue F/ 5412' T/BHA										8376	8376	7	
17:00	2.00	48	Lay down BHA. Bit in gauge										8376	8376	NIH	
19:00	0.50	21	Clean and prep rig floor										8376	8376	NIH	
19:30	6.00	11	PJSM with Schlumberger and Rig crew. Rig up SLB wireline. Run #1- RT Scanner, HNGS, Hole finder. Run in hole to 7850' MD, ~72°										8376	8376	NIH	
1:30	4.50	11	Run #2. Sonnic scanner. PEX										8376	8376	NIH	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
8376	0:30	13.00	13.20	47	19	16	8/9/			0	2.00	24.0%	12.0%	64.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1100	0.00	0.00	321509	0	0.00	84/16	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	109	RPM; 600=54, 300=35, 200=26, 100=18, 6=7, 3=6												

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/12/2013		Days From Spud :	29		Current Depth :	8376 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Cane Creek					Weather:	High near 87. Southwest wind 5 to 10 mph.									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	3.00	11	Run Wire line log #2. Sonnic scanner. PEX, T/ 7850' MD, 7586 TVD, Approx. 72° (No Hole Issues) R/D Schlumberger Wire Line								8376	8376	NIH			
9:00	2.50	30	Picked up BHA To Upper receiver sub for Imaging Gamma When Driller over torqued Connection. Connection was broken out, inspected and found to have Damage to face of sub.								8376	8376	NIH			
11:30	1.50	48	L/D Damaged tools, Program back up tools								8376	8376	NIH			
13:00	3.50	30	P/U Tools, Scribe motor, pu stand, install head rubber, Surface test MWD tools, stand back, PU I PZIG, LXM & bit								8376	8376	NIH			
16:30	4.25	42	TIH to 5285', Install rotating rubber. TIH t/5765.								8376	8376	8			
20:45	1.25	10	Test MWD. I PZIG tools not working. LXM is communicating with UXM but imaging data not transmitting.								8376	8376	8			
22:00	1.50	21	Flow check while building slug. Valve on bulk tank plugged off causing compressor to over heat and shut down. Clear plug, finish building and pump slug.								8376	8376	8			
23:30	3.50	43	TOH t/BHA to change out I PZIG tools								8376	8376	8			
3:00	3.00	30	Change out I PZIG tools. Rescribe motor. Test MWD.								8376	8376	8			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
8376	1:00	13.30	13.30	49	21	13	7/9/			0	2.00	24.0%	13.0%	63.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1140	0.00	0.00	321066	0	0.00	83/17	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	100	RPM; 600=55, 300=34, 200=26, 100=18, 6=6, 3=5												
Daily Summary																
Activity Date :	7/13/2013		Days From Spud :	30		Current Depth :	8690 Ft		24 Hr. Footage Made :	314 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Cane Creek					Weather:	High near 87. East wind 5 to 10 mph									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	1.00	30	Surface Test MWD tools, M/U bit and Flex collars								8376	8376	8			
7:00	5.00	42	TIH to 5770' test PZIG (good test) TIH T/ 7400'								8376	8376	8			
12:00	1.50	10	Image log f/7400' t/7500'								8376	8376	8			
13:30	1.50	42	TIH t/ 7808' work tight hole, cont TIH t/ 8130'								8376	8376	8			
15:00	3.50	10	Image log f/8130' t/8376'								8376	8376	8			
18:30	3.50	02	Drill lateral f/8376' t/8436', (60') 10-20wob, 150-350diff, 55rpm, 480gpm (17'/hr avg). Blew pop off while sliding.								8376	8436	8			
22:00	1.00	21	Rebuild pop off on mud pump								8436	8436	8			
23:00	7.00	02	Drill lateral f/8436' t/8690', (254') 5-20wob, 150-350diff, 55rpm, 460gpm (36.3'/hr avg).								8436	8690	8			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
8675	1:15	13.40	13.40	51	18	17	9/10/			0	2.00	25.0%	12.0%	63.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1305	0.00	0.00	303896	0	0.00	84/16	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	135	RPM; 600=53, 300=35, 200=28, 100=20, 6=8, 3=7												

**Well Name: Sepco State 30-23 #1-16**

Field Name:	N/A	S/T/R:	16/30N/23E	County, State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

**Daily Summary**

Activity Date :	7/14/2013	Days From Spud :	31	Current Depth :	9001 Ft	24 Hr. Footage Made :	311 Ft
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11		
Formation :	Cane Creek			Weather:	High near 87		

**Operations**

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	1.50	21	Repair pop off and change out swab, reset pop offs with 4500 psi nails. Reset pump saver @ 4100 psi.	8690	8690	8
7:30	2.50	05	Circulate, sync MWD tools.	8690	8690	8
10:00	4.50	02	Drill lateral f/8690 t/8707', (17') 5-20wob, 50-100diff, 0rpm, 450gpm (3.8'/hr avg).	8690	8707	8
14:30	1.00	05	Circulate hole clean	8707	8707	8
15:30	0.50	21	Troubleshoot MPD bleed off, Tighten flange cap on #1 mud pump	8707	8707	8
16:00	7.00	02	Drill lateral f/8707 t/8912', (205') 5-20wob, 50-400diff, 55rpm, 480gpm (29.3'/hr avg).	8707	8912	8
23:00	1.50	05	Circulate bottoms up to look at sample and confer with geology due to gamma spike.	8912	8912	8
0:30	4.75	02	Drill lateral f/8912' t/9001', (89') 5-20wob, 50-400diff, 55rpm, 480gpm (18.7'/hr avg).	8912	9001	8
5:15	0.75	05	Circulate bottoms up to look at sample and confer with geology due to gamma drop f/~100 t/~50.	9001	9001	8

Total:	24.00	
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**Mud Properties**

Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand
8924	1:00	13.10	13.10	46	18	20	11/12/			0	2.00	26.0%	10.0%	64.0%	0.0%
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss	
0.0	0.00	0.00	0.00	0.00	0	0	1320	0.00	0.00	365705	0	0.00	86/14	0	
Water Loss		LCM	ECD	FL Temp				Remarks							
0		0.0	0.0	124				RPM; 600=56, 300=38, 200=30, 100=22, 6=9, 3=8							

**Daily Summary**

Activity Date :	7/15/2013	Days From Spud :	32	Current Depth :	9343 Ft	24 Hr. Footage Made :	342 Ft
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11		
Formation :	Cane Creek			Weather:	High near 85. South southeast wind 5 to 10 mph		

**Operations**

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	0.50	05	Circulate bottoms up to look at sample and confer with geology due to gamma drop f/~100 t/~50. Mud Logger sample showed 90% dolomite, 10% anhydrite	9001	9001	8
6:30	2.00	02	Drill lateral f/9001' t/9065', (64') 5-20wob, 50-400diff, 55rpm, 480gpm (32'/hr avg).	9001	9065	8
8:30	0.50	05	C&C, Discuss dip angle with geologist, Lower Inc. to 84°, anticipating dip coming up and catching dip maintaining Approx. 84°	9065	9065	8
9:00	9.00	02	Drill lateral f/9065' t/9227', (162') 5-20wob, 50-400diff, 55rpm, 480gpm (18'/hr avg) "Note" @ 9152' Discussed Dip with Geologist and made decision to lower Inc. to 82°	9065	9227	8
18:00	1.00	05	Circulate and clean hole with pump #2 while changing swab in pump 1.	9227	9227	8
19:00	0.25	21	Shut down pumps due to leak in pump manifold at discharge end. Found wash out in manifold.	9227	9227	8
19:15	0.50	05	Circulate with one pump, recycle mwd and prepare to slide.	9227	9227	8
19:45	7.25	02	Drill lateral f/9227' t/9343', (116') 5-20wob, 50-400diff, 55rpm, 480gpm (16'/hr avg) "Note" @ 9227' Discussed Dip with Geologist and made decision to lower Inc. to 78°	9227	9343	8
3:00	3.00	05	Circulate hole clean and prepare for trip.	9343	9343	8

Total:	24.00	
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**Mud Properties**

Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand
9340	0:30	13.30	13.30	46	18	24	11/13/			0	2.00	26.0%	10.0%	64.0%	0.0%
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss	
0.0	0.00	0.00	0.00	0.00	0	0	1230	0.00	0.00	392513	0	0.00	86/14	0	
Water Loss		LCM	ECD	FL Temp				Remarks							
0		0.0	0.0	133				RPM; 600=60, 300=42, 200=34, 100=24, 6=10, 3=8							



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/16/2013		Days From Spud :	33		Current Depth :	9343 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Cane Creek					Weather:	High near 91. Southeast wind 5 to 10 mph									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	1.00	05	Finish circulating. Flow check. Well static								9343	9343	8			
7:00	8.50	43	TOH f/9343' to BHA. Hole tight at 7842'. Work through. Check flow at shoe 5442'. Check flow at BHA.								9343	9343	8			
15:30	2.50	48	Lay down BHA, Bit, motor & MWD. Bit in gauge.								9343	9343	NIH			
18:00	9.00	15	Pull wear bushing, Test BOP. Lower/Upper kelly valve, IBOP, Standpipe, Dart, back to mudpump 250Lo 5000Hi. Annular 250Lo 3500Hi, Upper rams, choke hcr, outer 2", lower pipe rams, blind rams, choke valves, super choke, choke line hcr, inner 2", kill 250Lo 10,000Hi								9343	9343	NIH			
3:00	0.50	21	Remove test plug. Close casing valve and bull plug. Set wear bushing. Prep rig floor to pick up BHA								9343	9343	NIH			
3:30	2.50	30	P/U Tools, Scribe motor, pu stand, Surface test MWD tools, stand back, PU I PZIG,								9343	9343	NIH			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9343	1:00	13.30	13.30	50	17	25	10/12/			0	2.00	26.0%	10.0%	64.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1220	0.00	0.00	383311	0	0.00	86/14	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	122	RPM; 600=59, 300=42, 200=33, 100=23, 6=9, 3=8												
Daily Summary																
Activity Date :	7/17/2013		Days From Spud :	34		Current Depth :	9480 Ft		24 Hr. Footage Made :	137 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Cane Creek					Weather:	rtly sunny, with a high near 90. Southeast wind 5 to 15 r									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	1.50	30	Make up I PZIG and bit, finish making up BHA								9343	9343	NIH			
7:30	8.00	42	TIH to 5700', Test I PZIG, TIH t/9300'. Tight at 7809'.								9343	9343	9			
15:30	1.00	21	Replace bowl gasket on Halliburton rotating head								9343	9343	9			
16:30	1.00	05	Wash last stand down and begin circulating bottoms up.								9343	9343	9			
17:30	0.25	21	Generator shut down. Restart generator.								9343	9343	9			
17:45	1.00	05	Finish circulating bottoms up. Get new slow pump rates.								9343	9343	9			
18:45	7.75	02	Drill lateral f/9343' t/9443, (100') 5-20wob, 50-400diff, 55rpm, 480gpm (12.9'/ hr avg) "Note" Sliding to lower Inc. to 75°								9343	9443	9			
2:30	0.25	05	Circulate while having conference call with geology. Inclination changed from 75° to 73° to catch dip.								9443	9443	9			
2:45	3.25	02	Drill lateral f/9443' t/9480, (37') 5-20wob, 50-400diff, 55rpm, 480gpm (11.4'/ hr avg) "Note" Sliding to lower Inc. to 73°. Request to lower to 72° @9472'md								9443	9480	9			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9417	0:45	13.30	13.30	56	16	25	10/12/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1220	0.00	0.00	318612	0	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	0.0	130	RPM; 600=57, 300=41, 200=33, 100=24, 6=10, 3=9												



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/18/2013		Days From Spud :	35		Current Depth :	9765 Ft		24 Hr. Footage Made :	285 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Cane Creek					Weather:	derstorms, mainly after 1pm. Partly sunny, with a high									
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	11.50	02	Drill Lateral F/9480' T/9651', (171') 5-20wob, 50-400diff, 55rpm, 480gpm (14.9/ hr avg) "Note" Sliding to lower Inc. to 68°. Request to lower to 68° @ 9492' md, Request to Slide Up @ 5°/100ft to 75° @ 9610' MD										9480	9651	9	
17:30	0.50	07	Lubricate Rig										9651	9651	9	
18:00	5.00	02	Drill Lateral F/9651' T/9721', (70') 7-35K WOB, 50-300 Diff, 55 RPM, 480 GPM (14/ HR Avg) "Note" Sliding to Raise Inc. to 77°. Request to Raise to 77° @ 9672' MD, At Approx. 20:30 Hrs Rig Watch Went Down Due to a Lightining Strike, Unable to Convert IPZIG Data Without Rig Watch Depth Tracking, Observed Drilling Break F/9705' T/9721', Rotating ROP Increased From 50 Ft/HR w/25k WOB to 50 Ft/HR w/7k WOB, Sliding ROP Increased From 5 Ft/HR w/35k WOB to 50 Ft/HR w/20k WOB										9651	9721	9	
23:00	1.00	05	Circ Bottoms Up Due to Drilling Break and No Gamma Data, Catch Sample, Sample Consistant with Cane Creek Formation										9721	9721	9	
0:00	1.00	02	Drill Lateral F/9721' T/9747', (26') 20-25 WOB, 50-300 Diff, 55 RPM, 480 GPM (26/ HR Avg) "										9721	9747	9	
1:00	2.50	05	Take Slow Pump Rates, C&C While Waiting on CanRig, Repair Rig Watch										9747	9747	9	
3:30	1.00	10	Re-Log F/9860' T/9747' Due to Rig Watch Failure										9747	9747	9	
4:30	1.50	02	Drill Lateral F/9747' T/9765', (18') 20-25 WOB, 50-300 Diff, 55 RPM, 480 GPM (12/ HR Avg),										9747	9765	9	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9747	0:00	13.30	13.30	56	20	22	11/13/			0	2.00	24.0%	10.0%	66.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1240	0.00	0.00	321832	36	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	14.1	122	LGS: 3.86			RPM; 600=62, 300=42, 200=35, 100=26, 6=12, 3=10									

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/19/2013		Days From Spud :	36		Current Depth :	9892 Ft		24 Hr. Footage Made :	127 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Cane Creek						Weather:	thunderstorms, mainly after noon. Partly sunny, with a f								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	2.00	02	Drill Lateral F/9765' T/9810', (45') 20-25 WOB, 50-300 Diff, 55 RPM, 480 GPM (22.5 Ft / HR Avg),										9765	9810	9	
8:00	0.50	05	Circ. Prior to Slide, For hole cleaning w/ 515 gpm 55 rpm										9810	9810	9	
8:30	2.50	02	Drill Lateral F/9810' T/9839', (29') 20-25 WOB, 50-300 Diff, 55 RPM, 480 GPM (11.6 Ft / HR Avg), (Current inc. 76°) Sliding up to achieve 80° inc. Attempting to build 5° / 100' drilled to the Top of The "C" Marker @ 9837"										9810	9839	9	
11:00	1.50	05	C&C While Discussing Formation Dip, Decison Made to Slide 100% or 8°/100' to Achieve 90° in 169'										9839	9839	9	
12:30	5.00	02	Slide Drill Lateral F/9839' T/9858', (19') 30-50 WOB, 30-150 Diff, 450 GPM (3.8 FT/ HR Avg), Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9839	9858	9	
17:30	0.50	05	Circulate With #1 Pump While Repairing Cap Casket on #2 Pump										9858	9858	9	
18:00	4.25	02	Slide Drill Lateral F/9858' T/9881', (23') 30-50 WOB, 30-150 Diff, 450 GPM (5.4 Ft / HR Avg), Sliding up to achieve 90° inc. Attempting to build 8° / 100', Difficulty Sliding										9858	9881	9	
22:15	0.75	05	Circulate Btms Up to Improve Sliding, 525 GPM, 3700 PSI, Unable to Rotate IPZIG in 8° DLS Due to Tool Specs										9881	9881	9	
23:00	1.50	02	Slide Drill Lateral F/9881' T/9882', (1') 40-55 WOB, 0-35 Diff, 485 GPM (.6 Ft/ HR Avg), Sliding up to achieve 90° inc. Attempting to build 8° / 100', Unable to Slide										9881	9882	9	
0:30	1.00	07	Service Top Drive, Change Grabber Dies, Replace Cap on Mud Pump #2										9882	9882	9	
1:30	2.00	05	Rack Back Stand, Circulate 2 Bottoms Up with Rotatry to Improve Sliding, 525 GPM, 55 RPM, 3704 PSI, 5,500 Torque										9882	9882	9	
3:30	2.50	02	Slide Drill Lateral F/9882' T/9892', (10') 40-55 WOB, 0-35 Diff, 485 GPM (4 Ft/ HR Avg), Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9882	9892	9	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9882	0:00	13.20	13.20	50	20	25	13/16/			0	2.00	24.0%	10.5%	65.5%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1300	0.00	0.00	377677	40	0.00	86/14	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	14.0	120	LGS: 0 RPM; 600=65, 300=45, 200=36, 100=27, 6=11, 3=9												

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/20/2013		Days From Spud :	37		Current Depth :	9911 Ft		24 Hr. Footage Made :	19 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Cane Creek						Weather:	d thunderstorms after noon. Mostly sunny, with a high n								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	0.50	68	Slide Drill Lateral F/9892' T/9893', 40-55 WOB, 0-35 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9892	9893	9	
6:30	1.00	74	Isolate # 1 mud pump, Replace swab and cap gasket, Replace washed out fitting on MPD choke manifold										9893	9893	9	
7:30	0.50	68	Slide Drill Lateral F/9893' T/9895', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9893	9895	9	
8:00	1.50	08	Circulate With One Pump @ 400 GPM While Replacing 2 Swabs In #1 Pump										9895	9895	9	
9:30	1.50	02	Slide Drill Lateral F/9895' T/9902', (7") 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9895	9902	9	
11:00	1.00	05	Circulate Hole Clean, Take Survey										9902	9902	9	
12:00	0.50	02	Slide Drill Lateral F/9902' T/9904', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100'										9902	9904	9	
12:30	3.00	05	Rack Back Stand, Circulate Hole Clean, 525 GPM, 55 RPM, Replace 2 Cap Gaskets in Mud Pump										9904	9904	9	
15:30	2.50	02	Slide Drill Lateral F/9904' T/9911', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100', Prep to TOH to Reposition and Add HWDP										9904	9911	9	
18:00	0.50	43	Line Up On Flow Line, Flow Check, No Flow										9911	9911	9	
18:30	1.00	43	TOH 2 Stands, Pump Slug										9911	9911	9	
19:30	4.00	43	TOH F/9726' T/5375', Flow Check, TOH F/5375' T/2853'										9911	9911	9	
23:30	0.50	07	Lube Rig										9911	9911	9	
0:00	3.00	42	PU 15 JTs HWDP, TIH F/2853' T/5724'										9911	9911	9	
3:00	0.50	10	Test MWD										9911	9911	9	
3:30	2.50	42	TIH F/5724' T/8700'										9911	9911	9	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9911	1:00	13.15	13.15	49	17	19	11/13/			0	2.00	24.0%	11.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1320	0.00	0.00	352247	36	0.00	86/14	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	13.1	110	LGS: 0 RPM; 600=53, 300=36, 200=28, 100=23, 6=10, 3=8												

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:	16/30N/23E				County, State:	San Juan, UT					
Operator:	SEPCO				Location Desc:					District:	N/A					
Daily Summary																
Activity Date :	7/21/2013		Days From Spud :	38		Current Depth :	10010 Ft		24 Hr. Footage Made :	99 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	hunderstorms. Mostly sunny and hot, with a high near 9									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	1.00	42	Cont. TIH F/ 8700' T/ 9823'							9911	9911	9				
7:00	1.00	05	Circ. B/U take SPR's							9911	9911	9				
8:00	0.50	74	Replace cap gasket on #2 pump #2 discharge module							9911	9911	9				
8:30	1.50	68	Slide Drill Lateral F/9911' T/9915', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100'							9911	9915	9				
10:00	1.50	74	Pull on stand, Replace rotating head rubber and bowl gasket							9915	9915	9				
11:30	6.00	68	Slide Drill Lateral F/9915' T/9947', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100', iPZIG Data Indicates Leaving the Cane Creek C and Entering the Salt @ 9945'							9915	9947	9				
17:30	0.50	05	Circulate While Discussing Plan Forward							9947	9947	9				
18:00	7.50	68	Slide Drill Lateral F/9947' T/9980', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100',							9947	9980	9				
1:30	0.50	05	Record Slow Pump Rates, Take Survey							9980	9980	9				
2:00	3.50	68	Slide Drill Lateral F/9980' T/10010', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding up to achieve 90° inc. Attempting to build 8° / 100',							9980	10010	9				
5:30	0.50	07	Lubricate Rig							10010	10010	9				
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
9983	2:00	13.25	13.25	50	19	20	15/16/			0	2.00	24.0%	10.0%	66.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1340	0.00	0.00	392112	42	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	14.0	121	LGS: 0	RPM; 600=59, 300=39, 200=34, 100=25, 6=11, 3=9											
Daily Summary																
Activity Date :	7/22/2013		Days From Spud :	39		Current Depth :	10105 Ft		24 Hr. Footage Made :	95 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	with a high near 98. South wind 5 to 10 mph becoming n									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	15.00	68	Slide Drill Lateral F/10010' T/10095', 40-55 WOB, 20-75 Diff, 485 GPM, Sliding Up. Attempting to build 8° / 100',							10010	10095	9				
21:00	0.50	05	C&C While Discussing Geology, Appeared to be Caustic Marker #22 below the Cane Creek							10095	10095	9				
21:30	1.00	02	Drill Lateral F/10095' T/10105', 11K WOB, 200-300 Diff, 450 GPM, 55 RPM, 8K Torque							10095	10105	9				
22:30	1.25	05	Circulate Btms Up, 500 GPM, Prep To TOH							10105	10105	9				
23:45	1.00	43	Attempt to Take Survey, Unable to Survey on Bottom, TOH F/10105' T/9823'							10105	10105	9				
0:45	2.75	05	Circulate Hole Clean, 55 RPM, 500GPM, 3600 PSI							10105	10105	9				
3:30	0.50	43	Flow Check, TOH 2 Stands T/9632', Pump Slug							10105	10105	9				
4:00	2.00	43	TOH F/9632' T/6800'							10105	10105	9				
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.20	13.20	50	23	21	14/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1300	0.00	0.00	461459	46	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	14.0	122	LGS: 0	RPM; 600=67, 300=44, 200=35, 100=26, 6=11, 3=9											

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/23/2013		Days From Spud :	40		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Salt						Weather:	and thunderstorms. Mostly sunny, with a high near 96. S								
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	0.75	42	TOH T/Casing Shoe @ 5440'								10105	10105	9			
6:45	0.25	21	Flow Check								10105	10105	9			
7:00	7.00	43	LDDP F/5440' T/495', Pragma Pipe Skate Tripped Breaker, Reset Same, Pragma Overheated								10105	10105	9			
14:00	2.00	34	Hold PJSM with Franks LD Crew, Rig Up Laydown Truck								10105	10105	9			
16:00	1.00	43	LDDP F/495' T/BHA, Pull Rotating Head								10105	10105	9			
17:00	2.50	48	LD BHA, Bit In Guage								10105	10105	9			
19:30	2.50	42	MU Bit & Bit Sub, TIH T/5000'								10105	10105	NIH			
22:00	8.00	43	LDDP F/5000' T/Bit, Use Tongs To Break Over Torqued Jts F/2500' T/ 500'								10105	10105	NIH			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.30	13.30	50	23	21	14/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1300	0.00	0.00	461459	46	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp					Remarks								
0	0.0	13.3	122	LGS: 0				RPM; 600=67, 300=44, 200=35, 100=26, 6=11, 3=9								
Daily Summary																
Activity Date :	7/24/2013		Days From Spud :	41		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Salt						Weather:	and thunderstorms. Mostly cloudy, with a high near 84.								
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	0.50	21	M/U retrieving tool and pull wear bushing								10105	10105	NIH			
6:30	3.50	15	Install 7" csg. Rams and test bonnets seal to 690 psi, 5 min.								10105	10105	NIH			
10:00	3.50	34	Held PJSM, Remove rig bails and elevators, R/U Franks Csg. equip. w/ CRT and torque turn								10105	10105	NIH			
13:30	1.00	12	Make Up Float, 2 Jts and Shoe, Test Same								10105	10105	NIH			
14:30	6.00	12	Run 7" GBCD 32# P110 Casing & Packers F/86' T/2114', Average Make Up Torque 13,000								10105	10105	NIH			
20:30	0.50	12	Install Trip Nipple								10105	10105	NIH			
21:00	4.25	12	Run 7" GBCD 32# P110 Casing F/2114' T/5422', Average Make Up Torque 13,000								10105	10105	NIH			
1:15	3.00	12	Install 7" Casing Stripping Head, Install Link Tilt Clamps on Bales, Rig Up 250 Ton Slips and Elevators								10105	10105	NIH			
4:15	0.75	74	Trouble Shoot Franks HPU, Rig Up Back Up HPU								10105	10105	NIH			
5:00	1.00	12	Run 7" GBCD 32# P110 Casing F/5442' T/6200', Average Make Up Torque 13,000								10105	10105	NIH			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp					Remarks								
0	0.0	13.3	122	LGS: 0				RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9								

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:	16/30N/23E			County, State:	San Juan, UT							
Operator:	SEPCO			Location Desc:				District:	N/A							
Daily Summary																
Activity Date :	7/25/2013		Days From Spud :	42		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	ers and thunderstorms. Mostly sunny, with a high near 8									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	11.00	12	Run 7" GBCD 32# P110 Casing F/6200' T/10043', Average Make Up Torque 13,000, Casing Swell Packers @ 9905', 9577', 9368', 9037', 8865', 8318', 8189', and 8189', ECP @ 8171', DV Tool @ 8146'								10105	10105	NIH			
17:00	2.00	05	Circulate 2 Btms Up @ 10,043' W/ 170 GPM, 870 PSI, Max Gas 543 Units								10105	10105	NIH			
19:00	1.00	34	LD CRT Tool, RU Cement Head								10105	10105	NIH			
20:00	0.25	44	Hold PJSM Over Stage 1 Procedure with All Involved Personnel								10105	10105	NIH			
20:15	0.75	23	Pressure Test to 8000psi, Pump 25bbl High Vis Spacer with Rig Pumps								10105	10105	NIH			
21:00	0.50	74	Replace O-Ring In Halliburton Cement Head								10105	10105	NIH			
21:30	4.50	23	Set Trips on Pumps @ 1800psi, Pump 53bbl Diesel, Drop Plug, Pump 7bbl 14.2ppg Tuned Spacer @ 1.5-2 BPM 1200psi, Shut Down, Verify Plug Left Cement Head, Pump 9bbl 14.2 Tuned Spacer @ 2 BPM For a Total of 16bbl Tuned Spacer, Pump 40bbl 9.6ppg Brine Water @ 2 BPM 1300psi, Followed By 19bbl 14.2ppg Tuned Spacer @ 1.5-2 BPM, Reset Trips on Pumps @ 2000psi, Followed By 284 BBL 13.2ppg OBM @ 2-3BPM 1640psi, Bump Plug with 1000psi, Hold for 4 Min, Check Floats, Floats Holding, Bled Back 1.5bbl								10105	10105	NIH			
2:00	0.50	23	Set ECP as Follows, Stage Pumps Up to 1000psi, Hold Pressure For 2 Minutes, Bring Pressure Up to 1480psi, Pressure Held for 30 seconds, Pressure Started Falling off, Bring Pumps Up To Maintain Pressure, Well is Circulating @ 1.5 BPM 1500psi, Pump 7bbl, Shut Down, Discuss DV Tool Opening Early, Monitor Well On Trip Tank, No Flow								10105	10105	NIH			
2:30	0.50	21	Discuss DV Tool Not Opening With Engineer, Decision Made To Circulate Bottoms Up								10105	10105	NIH			
3:00	3.00	05	Pump 34.6bbl With Haliburton Pump Truck, Pressure 2000psi @ 5 BPM, Swap To Rig Pumps, Pump Pressure 1016psi @ 5 Bpm, Pump pressure began falling, Pressure fell to 700psi, Kill Pumps, Check Surface Equipment, Bring Pumps Online @ 5 BPM 263 psi, Shut Down Pumps, Pumped a total of 150BBL, Well Flowing, Shut Well in @ 03:30hrs, 540 Psi On Back Side, Monitor Well, Pressure @ 580psi @ 05:00 Hrs, Discuss Options With Houston Engineering, Decision was made to circulate the well with the Drillers Method, Monitor well								10105	10105	NIH			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	13.3	122	LGS: 0	RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9											

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A			S/T/R:			16/30N/23E			County, State:			San Juan, UT			
Operator:	SEPCO			Location Desc:						District:			N/A			
Daily Summary																
Activity Date :	7/26/2013		Days From Spud :	43		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	n near 90. East northeast wind around 5 mph becoming									
Operations																
Start	Hrs	Code	Remarks								Start Depth	End Depth	Run			
6:00	2.50	05	Circulate Through MPD Equipment Using the The Drillers Method, Circulate Until 13.2ppg MW In and Out, Circulated Out 180bbl of Light Fluid From 12.2-12.7, Lowest Weight Was 8.4ppg, 0 Gas								10105	10105	NIH			
8:30	0.25	05	Flow Check, Well Static								10105	10105	NIH			
8:45	0.75	05	Circulate @ 4.25 BPM w/1344psi, While Discussing Plan Forward With Houston Engineers								10105	10105	NIH			
9:30	1.00	05	Circulate While Building 25bbl 16ppg Marked Pill To Determine if Well Is Circulating Through The DV Tool or The Float Equipment								10105	10105	NIH			
10:30	3.50	05	Circulate Surface to Surface, 4.25BPM, Observed Sawdust Across Shakers @ 5900 stks, Observed Heaviest Mud Weight @ 13.5ppg 7100stks. Inconclusive Results From Marker Pill								10105	10105	NIH			
14:00	2.00	05	Hold PJSM, Perform Backside Test as follows, Rig up Halliburton Pump Truck On B-Section Casing Valve to Pump Down 9 5/8" x 7" Annulus, Fill Lines, Pump 1/4 bbl increments to 500 psi, 0 Pressure Inside 7" Casing, Pump a Total of 0.9bbl, Bled off .05 bbl, Rig Down From Casing Valve, Based On Backside Test Well Is Circulating Through Float Equipment, DV Tool is Closed								10105	10105	NIH			
16:00	2.00	62	Monitor Well While Discussing Plan Forward With Houston								10105	10105	NIH			
18:00	2.00	34	Wash Through Halliburton Cementing Equipment, Rig Down Halliburton Cementers								10105	10105	NIH			
20:00	2.00	21	Wash Through Halliburton MPD Equipment and Stack								10105	10105	NIH			
22:00	8.00	28	ND BOPs, ND Choke Hard Line, ND Halliburton MPD HCR, Manual & HCR Valves, RU BOP Winches, Remove Rotating Head Clamp For Clearance, Monitor Well at Casing Valve While ND, Well Static, Lift Stack								10105	10105	NIH			
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	13.3	122	LGS: 0			RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9									



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/27/2013		Days From Spud :	44		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Salt						Weather:	mostly cloudy, with a high near 79. Southeast wind 5 to 1								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	3.50	28	Hold PJSM Lift Bop's with Bope Winches, Set Slips with 200K, Make Rough Cut, Remove Casing, LD 36" Spool, Make final cut, Install 7 1/16 10K Tubing head & test same to 2500 psi for 15 min good test.										10105	10105	NIH	
9:30	2.50	14	Install 7 1/16 10k X 11" 10k DSA, NU BOPE										10105	10105	NIH	
12:00	9.00	21	Rig down & Lay down 7" casing Bails & Elevators, Change BOP Rams to 3.5" Pipe Rams on Top, Blind Rams in Middle, 3.5" Pipe Rams on Bottom, RU Drilling Bails and 3.5" Elevators, Change Out Savor Sub, Change Grabber Blocks, NU Choke Line										10105	10105	NIH	
21:00	1.00	34	RU Test Crew, Install Test Plug, Open Casing Valve, Fill Stack										10105	10105	NIH	
22:00	7.00	15	Test BOPs and Choke Manifold, 250Low/5000High, Test Annular 250 Low/3500 High, RD Testers, Close Casing Valve										10105	10105	NIH	
5:00	1.00	21	Install Rotating Head Clamp, Prep to Drop Free Fall Opening Plug										10105	10105	NIH	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	13.3	122	LGS: 0 RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9												



Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:				16/30N/23E				County, State:		San Juan, UT	
Operator:	SEPCO				Location Desc:								District:		N/A	
Daily Summary																
Activity Date :	7/28/2013		Days From Spud :	45		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING						Rig Name:	NABORS M11								
Formation :	Salt						Weather:	storms. High near 72. West wind 5 to 10 mph. Chance of								
Operations																
Start	Hrs	Code	Remarks										Start Depth	End Depth	Run	
6:00	0.50	21	P/up 7" casing run down inside Bope & Release Free fall plug, Lay down 7" casing plug left casing										10105	10105	NIH	
6:30	0.50	30	Make up BHA										10105	10105	NIH	
7:00	10.00	30	Pick up 3.5" HWT & DP off racks filled pipe @ 2520', 5010' & 7015'										10105	10105	NIH	
17:00	1.00	05	Break circulation @ 7015' down DP With 250 psi 1/2 bbl / 280 psi .05 bbl / 320 psi 1.25 bbl / 460 psi 1.75 bbl Close annular & Open 9 5/8" casing valve, 330 psi 1 bbl / 380 psi 1.25 bbl / 470 psi 1.75 bbl										10105	10105	NIH	
18:00	1.50	30	Continue P/up 3.5" DP off racks from 7015' to 8039', Set Depth, Zero Weight, 5' In Hole F/8039' T/8139', Set 5k On DV Tool to Verify Plug Seat, PU 10'										10105	10105	NIH	
19:30	0.25	05	Fill DP, Close Annular, Pressure Up to 500psi to Verify Plug Is Seated and DV Tool is Closed, Pressure Stabilized at 440psi Due to Air In 3.5" x 7" Annulus, No Returns Observed From The 9 5/8" x 7" Annulus										10105	10105	NIH	
19:45	0.25	05	Pressure Up To 800psi, DV Tool Opened, Returns Observed From 9 5/8" x 7" Annulus, Take Pump Rates, 331psi @ 1 BPM, 386psi @ 1.25 BPM, 477 @ 1.75 BPM, 891 @ 2.75 BPM										10105	10105	NIH	
20:00	2.00	05	Circulate Bottoms Up, 2.75 BPM, 949 PSI, Max Gas 380 Units										10105	10105	NIH	
22:00	0.50	05	RU To Pressure Up On 9 5/8" x 7" Annulus to Verify DV Tool Is Open, Open HCR, Pressure Up On 9 5/8" x 7" Annulus to 323psi, Choke Manifold Was Reading 3.5" x 7" Annulus @ 160ps, Bleed Off Pressure Thorough Choke Manifold, 9 5/8" x 7" Annulus Pressure Bled Off, DV Tool Open										10105	10105	NIH	
22:30	0.50	05	Circulate 15bbl Through DV Tool Taking Returns From 9 5/8" x 7" Annulus, 2.75 BPM @ 960psi, DV Tool Unobstructed From Test										10105	10105	NIH	
23:00	5.00	43	TOH F/8129' T/7129', Pump Slug, TOH F/7129' T/BHA										10105	10105	NIH	
4:00	1.00	34	RU Cementers										10105	10105	NIH	
5:00	0.50	05	Circulate Btms Up with Rig Pumps, 5 BPM, 673psi										10105	10105	NIH	
5:30	0.50	44	Hold PJSM With Halliburton Cementers and Rig Crew										10105	10105	NIH	
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp	Remarks												
0	0.0	13.3	122	LGS: 0 RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9												

**Well Name: Sepco State 30-23 #1-16**

Field Name:	N/A	S/T/R:	16/30N/23E	County, State:	San Juan, UT
Operator:	SEPCO	Location Desc:		District:	N/A

**Daily Summary**

Activity Date :	7/29/2013	Days From Spud :	46	Current Depth :	10105 Ft	24 Hr. Footage Made :	0 Ft
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11		
Formation :	Salt			Weather:	pm. Mostly cloudy, with a high near 78. South southwest		

**Operations**

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	3.50	45	Test Lines to 6000psi, Pump 40 bbl 14.3ppg Tuned Spacer III @ 3 BPM, Followed By 105 bbl 14.6ppg TergoVis I Recovery Fluid @ 5 BPM, Followed By 86 bbl 15ppg Cement @ 15 BPM, Drop Closing Plug, Followed By 288.5 BBL 9.0ppg Brine Water @ 5-8BPM, Slow Down Last 10 bbl of Displacement to 2 BPM @ 3055psi, Bump Plug @ 3650psi, Hold For 3 Minutes, Bring Pressure Up to 5055psi To Close DV Tool, Release Pressure, Bled Back 5.5 BBL, DV Tool Closed, 40 bbl Tuned Spacer To Surface	10105	10105	NIH
9:30	1.00	21	Rig Down Cementers	10105	10105	NIH
10:30	1.50	09	Slip & cut 140' drill line	10105	10105	NIH
12:00	4.50	42	TIH W/ 3.5" DP T/7200'	10105	10105	NIH
16:30	4.00	48	TOH LDDP F/7200' T/4000'	10105	10105	NIH
20:30	0.50	73	Wait On Lightning to Pass	10105	10105	NIH
21:00	3.50	48	TOH LDDP F/4000' T/Surface	10105	10105	NIH
0:30	1.00	21	Wash Through Mud Lines, Stack & Choke Manifold, Cleaning Pits	10105	10105	NIH
1:30	3.50	21	Change Top & Bottom Pipe Rams On BOP, Cleaning Pits	10105	10105	NIH
5:00	1.00	28	ND BOPs, Remove Choke and Kill Line	10105	10105	NIH
Total:	24.00					

**Mud Properties**

Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss	
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0	
Water Loss		LCM	ECD	FL Temp				Remarks							
0		0.0	13.3	122	LGS: 0			RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9							

**Daily Summary**

Activity Date :	7/30/2013	Days From Spud :	47	Current Depth :	10105 Ft	24 Hr. Footage Made :	0 Ft
Rig Company :	NABORS DRILLING			Rig Name:	NABORS M11		
Formation :	Salt			Weather:	82. Light and variable wind becoming west southwest 5		

**Operations**

Start	Hrs	Code	Remarks	Start Depth	End Depth	Run
6:00	9.00	28	N/D Bope, L/D V-Door, Move Pragma, L/d Bope, Move Bope from under sub ( T Force moved 7 loads of DP ) Rigging down & loading out third party eqp. ( ( Mountain West moved 3 living quarters off location ) ( Zeco moved 4 loads ) Pit cleaners started cleaning pits @ 1300 hours	10105	10105	NIH
15:00	0.50	14	N/up Blank flange on 7 1/16 10k tubing head	10105	10105	NIH
15:30	14.00	21	Clean Pits & Rig, Clean Frac Tanks, Prep to Scope Derrick	10105	10105	NIH
5:30	0.50	22	Release Rig @ 06:00hrs 7/30/2013 w/5156gal Diesel Fuel	10105	10105	NIH
Total:	24.00					

**Mud Properties**

Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss	
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0	
Water Loss		LCM	ECD	FL Temp				Remarks							
0		0.0	13.3	122	LGS: 0			RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9							

Well Name: Sepco State 30-23 #1-16																
Field Name:	N/A				S/T/R:	16/30N/23E				County, State:	San Juan, UT					
Operator:	SEPCO				Location Desc:					District:	N/A					
Daily Summary																
Activity Date :	7/31/2013		Days From Spud :	48		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	near 85. Calm wind becoming west southwest around 5									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	24.00	22	Rig down floor, Scope mast down Cleaning rig & mud pits ( T-Force moved 3 loads DP ) ( Mountain State move 3 loads living quarters) ( Rain for rent moved 2 Frack tanks )							10105	10105	NIH				
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	13.3	122	LGS: 0			RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9									
Daily Summary																
Activity Date :	8/1/2013		Days From Spud :	49		Current Depth :	10105 Ft		24 Hr. Footage Made :	0 Ft						
Rig Company :	NABORS DRILLING					Rig Name:	NABORS M11									
Formation :	Salt					Weather:	s with thunderstorms in the afternoon High near 80. Cha									
Operations																
Start	Hrs	Code	Remarks							Start Depth	End Depth	Run				
6:00	0.50	22	Hold PJSM With Crews & All Third party on rigging down & loading out rig.							10105	10105	NIH				
6:30	12.50	22	RDMO Nabors M-11, Lower ZECO gas buster & load out same, Move last 3- 500 bbl Rain for Rent frack tanks, Rig down & load out Accumlater unit, Water tank, Mud pumps, Pump parts house, Generators, SCR House & 2- Mud Tanks, Remove sheds from mud tanks & remove shaker skid off tanks, T-Force moved 13 loads off location							10105	10105	NIH				
19:00	11.00	22	Wait on Daylight to Continue RDMO							10105	10105	NIH				
Total:	24.00															
Mud Properties																
Depth	Time	Wt In	Wt Out	Vis	PV	YP	Gels	FL	HTFL	FC	HTFC	Solid	Water	Oil	Sand	
10105	1:00	13.25	13.25	51	23	20	13/15/			0	2.00	25.0%	10.0%	65.0%	0.0%	
MBT	pH	Pm	Pf	Mf	Cl	Ca	ES	Pom	Lime	Total Sal.	CaCl2	EDTA	O/W Ratio	Mud Loss		
0.0	0.00	0.00	0.00	0.00	0	0	1310	0.00	0.00	471642	40	0.00	87/13	0		
Water Loss	LCM	ECD	FL Temp				Remarks									
0	0.0	13.3	122	LGS: 0			RPM; 600=66, 300=43, 200=35, 100=25, 6=11, 3=9									

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>1. TYPE OF WELL</b> Oil Well		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>9. API NUMBER:</b> 43037500400000
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125 , Houston, TX, 77032		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>COUNTY:</b> SAN JUAN
		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>8/30/2013</b>	<input checked="" type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Plan to acidize with 4000 gal of 15% HCl.

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Date:** August 29, 2013

**By:** Derek Duff

<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/27/2013



# EAGER BEAVER TESTERS INC.

RECEIVED

AUG 01 2013

P.O. BOX 1616  
ROCK SPRINGS, WY 82902

PHONE:  
CASPER - (307) 265-8147  
ROCK SPRINGS - (307) 382-3350

DIV. OF OIL, GAS & MINING

## BOP TEST REPORT

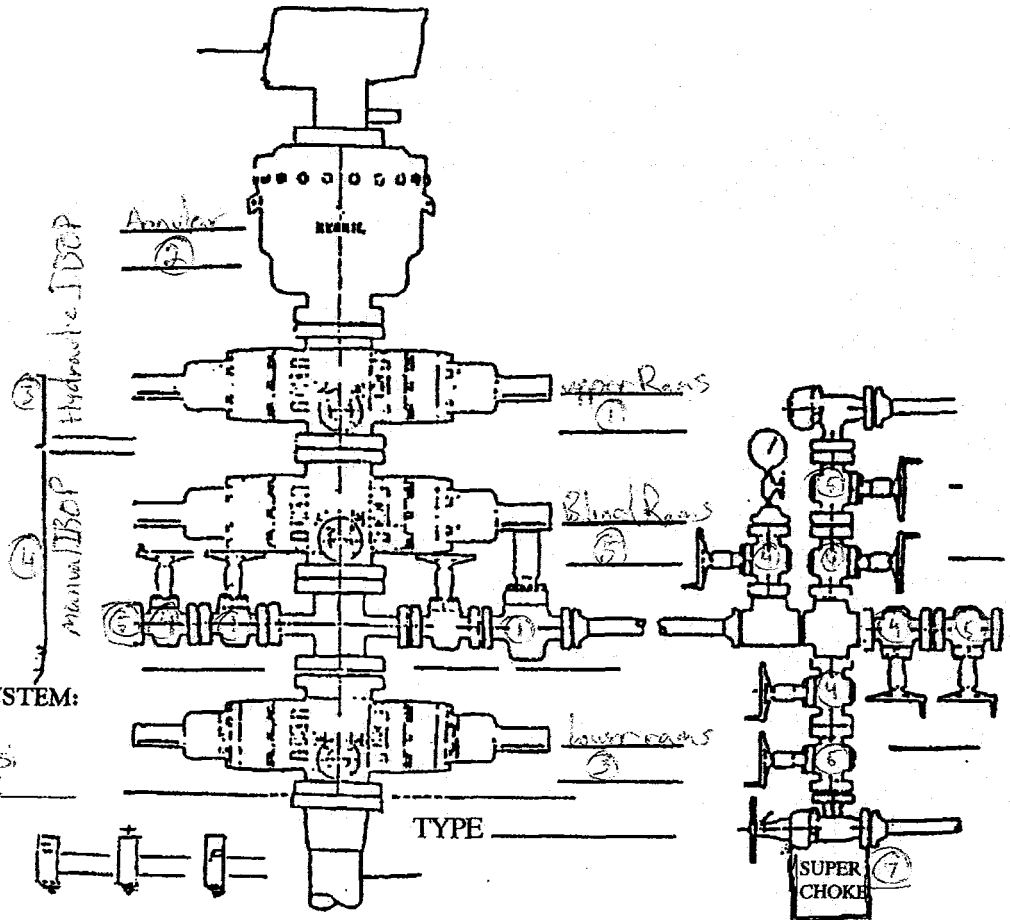
43 037 50040

DATE: 7-26-13 OPERATOR: Solution Energy RIG OR SITE#: Alamosa SEC: 16 TNSHIP: 30 S RANGE: 23 E

FIELD: Wild Cat WELL#: Super Slide 30-23-116 TEST PRESSURE: 250/5000 psi

### EQUIPMENT PRESSURE TESTED:

ANNULAR 50%	<u>2</u>
UPPER PIPE RAMS	<u>1</u>
LOWER PIPE RAMS	<u>3</u>
BLIND RAMS	<u>5</u>
KILL LINE VALVES	<u>1/4</u>
HCR VALVE	<u>1</u>
CHOKE VALVES	<u>1</u>
MANIFOLD VALVES	<u>4/5</u>
SUPER CHOKE	<u>7</u>
MANUAL CHOKE	<u>N/A</u>
UPPER KELLY VALVE	<u>3</u>
LOWER KELLY VALVE	<u>4</u>
INSIDE BOP	<u>N/A</u>
FLOOR VALVE	<u>N/A</u>
CASING PRE.	<u>N/A</u>



### ACCUMULATOR AND CLOSING SYSTEM:

NITROGEN PRECHARGE PSI 1000 psi  
FIELD CHECK ☒ GAUGE CHECK ☒  
BOTTLES ☒ SPHERES ☒

FUNCTION CHECK 7 sec  
PUMP CHECK 2.2 sec  
REMOTE OPERATION CHECK ☒  
HYDRAULIC FLUID LEVEL ☒

### OTHER TESTS:

EQUIPMENT TYPE \_\_\_\_\_ PRESSURE \_\_\_\_\_

### REPAIRS OR POTENTIAL PROBLEMS:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# EAGER BEAVER TESTERS

DATE: 7-2-83 COMPANY: S. H. & W. Co. RIG: Albion M-11 WELL NAME & #: Super State 30-2341-16 #1

## ACCUMULATOR FUNCTION TESTS

TO CHECK THE USABLE FLUID STORED IN THE NITROGEN BOTTLES ON THE ACCUMULATOR

(O.S.O. #2 SECTION III, A.3.C.1. OR II OR III)

1. Make sure all rams and annular are open and if applicable HCR is closed
2. Ensure accumulator is pumped up to working pressure! (shut off pumps)
3. Open HCR Valve (if applicable)
4. Close annular
5. Close all pipe rams
6. Open one set of the pipe rams to simulate closing the blind ram
7. If you have a 3 ram stack open the annular to achieve the 50%+ safety factor for 5M and greater systems
8. Accumulator pressure should be 200 psi over desired precharge pressure, (accumulator working pressure (1500 psi= 750 desired psi) (2000 and 3000 psi= 1000 desired psi)
9. Record the remaining pressure 2200 PSI

TO CHECK THE CAPACITY OF THE ACCUMULATOR PUMPS

(O.S.O. #2 SECTION III.A.2.F.)

1. Shut the accumulator bottles or spherical, (isolate them from the pumps and manifold) Open the bleed off valve to the tank, (manifold psi should go to 0 psi) close bleed valve.
2. Open the HCR valve (if applicable)
3. Close annular
4. With pumps only, time how long it takes to regain manifold pressure to 200 psi over desired precharge pressure! (Accumulator working pressure {1500 psi=750 desired psi} {2000 and 3000 psi= 1000 desired psi})
5. Record elapsed time 7 sec (2 minutes or less)

TO CHECK THE PRECHARGE ON BOTTLES OR SPHERICAL

(O.S.O. #2 SECTION III.A.2.D.)

1. Open bottles back up to the manifold (pressure should be above the desired precharge pressure, (1500 psi=750 desired psi) (2000 and 3000 psi= 1000 desired psi) may need to use pumps to pressure back up.
2. With power to pumps shut off open bleed line to the tank
3. Watch and record where the pressure drops (accumulator psi)
4. Record the pressure drop 1000 PSI

If pressure drops below the minimum precharge, (accumulator working pressure {1500 psi=700 min}{2000 and 3000 psi=

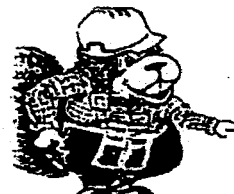
DATE: 7-26-13 COMPANY: Gasbarsten Energy RIG: 12 above 5 Well

WELL NAME &amp; #: Spxco State 30-23 #1-16H

Time	Test No.		Result
11:41 AM <input type="checkbox"/> PM <input type="checkbox"/>	1	Manifold, upper pipe rams, HPR, inside kill valve	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
12:53 AM <input type="checkbox"/> PM <input type="checkbox"/>	2	Annular	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
1:10 AM <input type="checkbox"/> PM <input type="checkbox"/>	3	lower pipe rams, Hydraulic T BOP	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
1:57 AM <input type="checkbox"/> PM <input type="checkbox"/>	4	manifold, outside kill valve, inside manifold valves, Riser	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
3:43 AM <input type="checkbox"/> PM <input type="checkbox"/>	5	outside manifold valves, Blind Ram, check valve	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
4:15 AM <input type="checkbox"/> PM <input type="checkbox"/>	6	Downstream manifold valves	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
4:18 AM <input type="checkbox"/> PM <input type="checkbox"/>	7	Superbore	Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	8		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	9		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	10		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	11		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	12		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	13		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	14		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>
AM <input type="checkbox"/> PM <input type="checkbox"/>	Retest		Pass <input type="checkbox"/> Fail <input type="checkbox"/>

Acc. Tank Size (inches) (        W        D        L ) ÷ 231 =        gal.

Rock Springs, WY (307) 382-3350  
 BOP TESTING, CASING TESTING, LEAK OFF TESTING, &  
 INTEGRITY TESTING  
 NIPPLE UP CREWS, NITROGEN CHARGING SERVICE







<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: ML51650
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
1. TYPE OF WELL Oil Well		7. UNIT or CA AGREEMENT NAME:
2. NAME OF OPERATOR: SOUTHWESTERN ENERGY PRODUCTION COMPANY		8. WELL NAME and NUMBER: SEPCO STATE 30-23 #1-16H
3. ADDRESS OF OPERATOR: 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032	PHONE NUMBER: 281 618-7414 Ext	9. API NUMBER: 43037500400000
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0796 FSL 0412 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		9. FIELD and POOL or WILDCAT: WILDCAT
		COUNTY: SAN JUAN
		STATE: UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <b>9/23/2013</b>	<input checked="" type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input checked="" type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please see attachment.

**Approved by the**  
**Utah Division of**  
**Oil, Gas and Mining**

Date: September 17, 2013

By: Derek Duff

NAME (PLEASE PRINT) Amy Johnson	PHONE NUMBER 281 618-7414	TITLE Regulatory Supervisor
SIGNATURE N/A		DATE 9/16/2013



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43037500400000**

**As discussed, a CIBP can be placed @ 8100' with 100' of cemented spotted on top of CIBP in lieu of the 200' balanced plug specified in the plan.**



**SEPCO**  
2350 N Sam Houston Pkwy E  
Suite 125  
Houston, Texas 77032  
www.swn.com

## SEPCO STATE 30-23 1-16H RECOMPLETION PROCEDURE

**A F E # 1 0 0 3 3 4 9**

Proc. Date: 9/16/2013

796' FSL & 412' FEL  
Sec. 16, T30S, R23W  
San Juan County, UT  
Paradox

MD: 10,105' LL: 1900'  
TVD: 7,920'  
PBSD: 9,962' MD Float Collar

**API#: 43-037-50040-0000**  
KB/GL: 22'  
GL: 5877'

### Objective

- < Plugback Lateral Portion of Wellbore
- < Complete & Swab Test Paradox Clastic Intervals 6, 9, 10, 18, & 19

### Current Wellbore Condition

The well was originally drilled as a horizontal targeting the Cane Creek Interval (Paradox Clastic #21). The horizontal was completed in two phase. The Cane Creek interval was determined to be non-commercial. A 2 7/8" production tubing string and retrievable production packer are currently installed.

### Casing & Tubing

Surf. Csg: 13-3/8" 54.5# J-55 set @ 1800' MD  
Int. Csg: 9 5/8" 40# P110 set @ 5442' MD  
Prod Csg: 7" 32# P110 set @ 10,043' MD

### Tubular Capacities

13-3/8" 54# J-55	Burst: 2730-psi			
9 5/8" # HCP110	ID: 8.835"	Drift: 8.679"	3.1847 gal/ft	0.0758 bbl/ft
	Burst: 6820 psi	80% Burst: 5456 psi		
7" 32# P110 GBCD	ID: 6.094"	Drift: 5.969"	1.5152 gal/ft	0.0360 bbl/ft
	Burst: 12,460 psi	80% Burst: 9,968 psi		
2 7/8" 6.5# L80 EUE	ID: 2.441	Drift: 2.347	0.2431 gal/ft	0.00579 bbl/ft
	Burst: 10,570 psi	80% Burst: 8,456 psi		
2 7/8" 8.7# P110 PH6	ID: 2.259	Drift: 2.165	0.2082 gal/ft	0.004957 bbl/ft
	Burst: 20,620 psi	80% Burst: 16,496 psi		



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wisely investing the cash flow from our  
underlying Assets, will create Value+®



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## **NOTE:**

Modifications of this procedure may be necessary as the job progresses. All changes need to be approved by Engineering.

HSE is the top priority. All service personnel need to be familiar with SEECO HSE policies and practices. Safety meetings should be held prior to any and all work being performed, before each stimulation stage, and noted on the daily reports.

Well control and overall work safety is imperative. In order to assure a safe working environment, the SWN well site supervisor must provide safe and effective leadership, and exercise good judgment. If at any time the WSS feels that a situation is inordinately dangerous and additional measures are required, the WSS will stop the job and confer with the SWN Completion Foreman or the SWN Completion Superintendent before proceeding. Compromising the control of a well or causing unauthorized releases of fluids to the environment is not acceptable. The SWN WSS is responsible for the safe management of the well and location at all times. Unless otherwise authorized by the SWN Completion Foreman, never begin operations without proper onsite supervision. The SWN WSS supervisor should be the first to arrive on location. When the WSS is confident all potential hazards have been secured, he will be the last to leave location.

**THESE OPERATIONS REQUIRE THE CIRCULATION AND SPOTTING OF COMBUSTIBLE AND/OR FLAMABLE PRODUCTS (DIESEL). CARE MUST BE TAKEN TO ENSURE THAT THESE PRODUCTS DO NOT COME IN CONTACT WITH AN IGNITION SOURCE. ENSURE THAT THE PROPER EQUIPMENT IS IN PLACE TO EXTINGUISH A FIRE PRIOR TO CONDUCTING OPERATIONS INVOLVING THE PUMPING OF FLAMMABLE PRODUCTS.**

### **DIESEL**

**FLASH POINT: 140° F**

**AUTOIGNITION POINT: 410° F**

**DIESEL CANNOT BE INJECTED INTO FORMATION AT OR EXCEEDING FRACTURE INITIATION PRESSURES.**

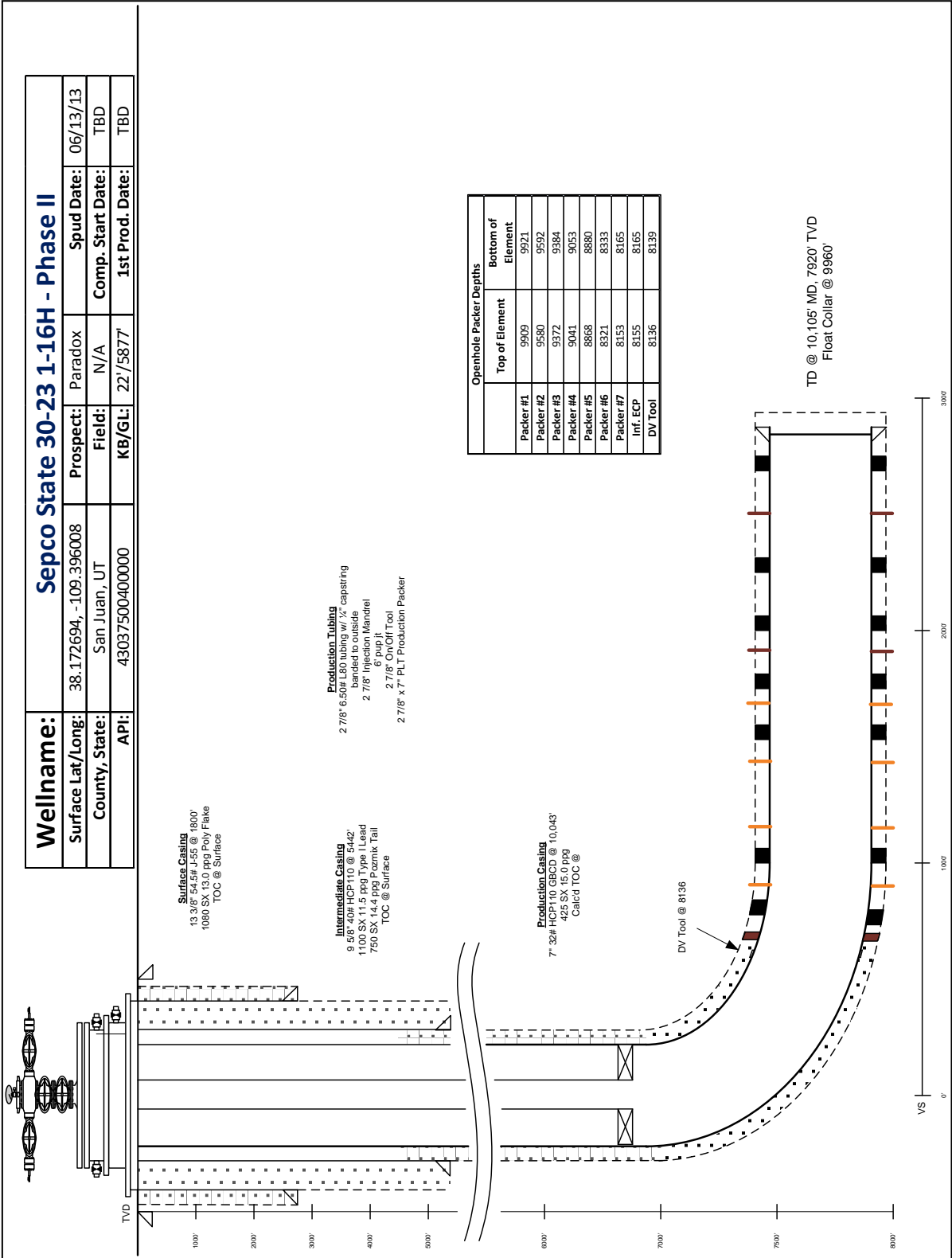


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Wellname: Sepco State 30-23 1-16H - Phase II				
Surface Lat/Long:	38.172694, -109.396008	Prospect:	Paradox	Spud Date: 06/13/13
County, State:	San Juan, UT	Field:	N/A	Comp. Start Date: TBD
API:	43037500400000	KB/GL:	22'/587'	1st Prod. Date: TBD



$$\frac{R^2}{A} \rightarrow V^+$$

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wisely investing the cash flow from our  
underlying Assets, will create Value+®



## Wellbore Prep Procedure

1. Hold pre-job safety meeting before each operation. Ensure all applicable PPE is available, in proper working order, and used as required.
2. MIRU workover unit, 500 Hp 5K rig pump, & mud tank w/ HP iron. Spot duck ponds/spill containment underneath fluid pump.
3. Spot 1 - 500 bbl frac tanks and 1 – 500 bbls open-top tank. RU 2" 1502 flow iron and adjustable choke form the wellhead to the open top tank.
4. Check shut-in casing & tubing pressures on wellhead. Ensure well is dead and stable prior to proceeding.
5. ND 2 9/16" 10K x 7 1/16" 10K production tree off of 7 1/16" 10K tubing head.
6. Install 6' pup joint into tubing hanger. Pick up to unseat tubing hanger and set slips on top of tubing head. Remove tubing hanger. Install pick up sub in top of tubing.
7. Strip on 7 1/16" 10K x 7 1/16" 5K spool and 7 1/16" 5K dual ram BOP's w/ blind rams on bottom and 2 7/8" pipe rams on top.
8. Latch onto tubing and rotate to the right to release production packer. TOO H w/ production packer while standing back. LD marker jt, On/Off tool, production packer, 6' pup jt, and WL entry guide.
9. TIH open ended until EOT @ 8100'. Spot 35 sx (7.2 bbls) of 15.6 ppg Class H cement from 7900 – 8100'.
10. TOO H and position EOT @ 7800'. Reverse circulate to load wellbore w/ diesel (281 bbls or until returns are consistent).
11. TOO H while standing back.
12. Shutdown and allow cement to set overnight.

Zone	Top Shot Depth	Bottom Shot Depth	Carrier Size	SPF	Phasing	Grams	EH	Pen.
<b>Clastic #6</b>	5770	5778	4 1/2"	6	60°	38.5	0.44"	43.37"
<b>Clastic #9</b>	6114	6124	4 1/2"	6	60°	38.5	0.44"	43.37"
<b>Clastic #10</b>	6272	6288	4 1/2"	6	60°	38.5	0.44"	43.37"
<b>Clastic #18</b>	7150	7154	4 1/2"	6	60°	38.5	0.44"	43.37"
<b>Clastic #19</b>	7418	7428	4 1/2"	6	60°	38.5	0.44"	43.37"

## Clastic 19 Testing

1. MIRU ELU and lubricator/WL BOP/ Grease head Package. PUMU 4 1/2" x 10' perf guns loaded w/ 6 SPF, 60° phasing.
2. NU WL BOP's & lubricator to 7 1/16" 5K BOP's. Pressure test lubricator & grease head to 3000 psi.
3. RIH and correct WL to openhole GR. Pull into position to perforate Paradox Clastic 19 Interval from 7418 – 7428'. Pressure up on casing to 200 psi prior to firing. Record pressure change.





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4. POOH. RDMO ELU & associated equipment.
5. Open well to flow test starting on a 16/64" choke. Coordinate with engineering for choke adjustments and to determine when to proceed.
6. Ensure well is dead and stable prior to proceeding. PUMU 7" RTTS test packer (or equivalent), 2 7/8" SN, 1 jt of tubing, and 2 7/8" X Nipple.
7. TIH and set test packer at +/- 7350'. Slack off 12 – 15K #'s on packer. Pressure up on backside to 500 psi to confirm seal.
8. PU 2 7/8" swab cups & lubricator. Swab test Clastic interval 19 to determine productivity
  - a) If interval swabs dry, MIRU HP acid pump, HP iron, & containment. Install dual 2 7/8" 10K TIW valve in workstring. Pressure test lines to 8500 psi.
  - b) Pump 1000 gallons of 15% HCl w/ NE & 2X FE. Displace acid into formation using mineral oil. Overdisplace by one bbl. Do not exceed a maximum injection rate of 0.5 BPM
  - c) Allow acid to soak on formation for 1 – 2 hrs.
  - d) Flow well back starting on a 16/64" choke. Adjust choke as necessary. Attempt to keep the recovered mineral oil separate from the diesel or brines so that it may be reused.
  - e) Proceed with swab testing after surface pressure falls to zero and remains steady.
  - f) If swab testing may take longer than 1 – 2 days release workover unit and MIRU swab unit, if available, to proceed with swab testing.

## Clastic 18 Testing

1. MIRU workover unit and associated equipment if applicable.
2. Latch onto tubing and rotate to release packer. TOO H while standing back. LD test packer & redress.
3. PUMU 7" RBP & retrieval head. TIH and set RBP @ 7250' (33" Inc.). Pick up 10' and dump 20' of sand on top of RBP (4 cf or 400#'s.)
4. TOO H while standing back.
5. Load hole with 6.9# diesel. Pressure test RBP to 3000 psi. Hold test for 5 min.
6. MIRU ELU, lubricator, WL BOP's, & Grease Head.
7. PUMU 4 1/2" x 4' perf guns loaded w/ 6 SPF, 60° phasing. NU lubricator & pressure control package to 7 1/16" 5K BOP's. Pressure test pressure control package to 3000 psi.
8. RIH and correlate depth to openhole GR measurement. Pull into position to perforate Clastic 18 from 7150 – 7154. Pressure up on casing 200 – 300 psi prior to firing. Record pressure change.
9. POOH. RDMO ELU & associated equipment.
10. Open well to flow test starting on a 16/64" choke. Coordinate with engineering for choke adjustments and to determine when to proceed.
11. Ensure well is dead and stable prior to proceeding. PUMU 7" RTTS test packer (or equivalent), 2 7/8" SN, 1 jt of tubing, and 2 7/8" X Nipple.





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12. TIH and set test packer at +/- 7100'. Slack off 12 – 15K #'s on packer.
13. PU 2 7/8" swab cups & lubricator. Swab test Clastic interval 18 to determine productivity
  - a) If interval swabs dry, MIRU HP acid pump, HP iron, & containment. Install dual 2 7/8" 10K TIW valve in workstring. Pressure test lines to 8500 psi.
  - b) Pump 500 gallons of 15% HCl w/ NE & 2X FE. Displace acid into formation using mineral oil. Overdisplace by one bbl. Do not exceed a maximum injection rate of 0.5 BPM
  - c) Allow acid to soak on formation for 1 – 2 hrs.
  - d) Flow well back starting on a 16/64" choke. Adjust choke as necessary. Attempt to keep the recovered mineral oil separate from the diesel or brines so that it may be reused.
  - e) Proceed with swab testing after surface pressure falls to zero and remains steady.
  - f) If swab testing may take longer than 1 – 2 days release workover unit and MIRU swab unit to proceed with swab testing.

## Clastic 10 Testing

1. MIRU workover unit and associated equipment if applicable.
2. Latch onto tubing and rotate to release packer. TOO H while standing back. LD test packer & redress.
3. PUMU 7" RBP & retrieval head. TIH and set RBP @ 6350'. Pick up 10' and dump 20' of sand on top of RBP (4 cf or 400#'s.)
4. TOO H while standing back.
5. Load hole with 6.9# diesel. Pressure test RBP to 3000 psi. Hold test for 5 min.
6. MIRU ELU, lubricator, WL BOP's, & Grease Head.
7. PUMU 4 1/2" x 16' perf guns loaded w/ 6 SPF, 60° phasing. NU lubricator & pressure control package to 7 1/16" 5K BOP's. Pressure test lubricator package to 3000 psi.
8. RIH and correlate depth to openhole GR measurement. Pull into position to perforate Clastic 10 from 6272 – 6288. Pressure up on casing 200 psi prior to firing. Record pressure change.
9. POOH. RDMO ELU & associated equipment.
10. Open well to flow test starting on a 16/64" choke. Coordinate with engineering for choke adjustments and to determine when to proceed.
11. Ensure well is dead and stable prior to proceeding. PUMU 7" RTTS test packer (or equivalent), 2 7/8" SN, 1 jt of tubing, and 2 7/8" X Nipple.
12. TIH and set test packer at +/- 6230'. Slack off 12 – 15K #'s on packer.
13. PU 2 7/8" swab cups & lubricator. Swab test Clastic interval 10 to determine productivity
  - g) If interval swabs dry, MIRU HP acid pump, HP iron, & containment. Install dual 2 7/8" 10K TIW valve in workstring. Pressure test lines to 8500 psi.







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- h) Pump 1,500 gallons of 15% HCl w/ NE & 2X FE. Displace acid into formation using mineral oil. Overdisplace by one bbl. Do not exceed a maximum injection rate of 0.5 BPM
- i) Allow acid to soak on formation for 1 – 2 hrs.
- j) Flow well back starting on a 16/64" choke. Adjust choke as necessary. Attempt to keep the recovered mineral oil separate from the diesel or brines so that it may be reused.
- k) Proceed with swab testing after surface pressure falls to zero and remains steady.
- l) If swab testing may take longer than 1 – 2 days release workover unit and MIRU swab unit to proceed with swab testing.

## Clastic 9 Testing

1. MIRU workover unit and associated equipment if applicable.
2. Latch onto tubing and rotate to release packer. TOO H while standing back. LD test packer & redress.
3. PUMU 7" RBP & retrieval head. TIH and set RBP @ 6200'. Pick up 10' and dump 20' of sand on top of RBP (4 cf or 400#'s.)
4. TOO H while standing back.
5. Load hole with 6.9# diesel. Pressure test RBP to 3000 psi. Hold test for 5 min.
6. MIRU ELU, lubricator, WL BOP's, & Grease Head.
7. PUMU 4 1/2" x 10' perf guns loaded w/ 6 SPF, 60° phasing. NU lubricator & pressure control package to 7 1/16" 5K BOP's. Pressure test lubricator package to 3000 psi.
8. RIH and correlate depth to openhole GR measurement. Pull into position to perforate Clastic 9 from 6114 – 6124'. Pressure up on casing 200 psi prior to firing. Record pressure change.
9. POOH. RDMO ELU & associated equipment.
10. Open well to flow test starting on a 16/64" choke. Coordinate with engineering for choke adjustments and to determine when to proceed.
11. Ensure well is dead and stable prior to proceeding. PUMU 7" RTTS test packer (or equivalent), 2 7/8" SN, 1 jt of tubing, and 2 7/8" X Nipple.
12. TIH and set test packer at +/- 6050'. Slack off 12 – 15K #'s on packer.
13. PU 2 7/8" swab cups & lubricator. Swab test Clastic interval 9 to determine productivity
  - a) If interval swabs dry, MIRU HP acid pump, HP iron, & containment. Install 2 7/8" 10K TIW valve in workstring. Pressure test lines to 8500 psi.
  - b) Pump 1,000 gallons of 15% HCl w/ NE & 2X FE. Displace acid into formation using mineral oil. Overdisplace by one bbl. Do not exceed a maximum injection rate of 0.5 BPM
  - c) Allow acid to soak on formation for 1 – 2 hrs.
  - d) Flow well back starting on a 16/64" choke. Adjust choke as necessary. Attempt to keep the recovered mineral oil separate from the diesel or brines so that it may be reused.





- e) Proceed with swab testing after surface pressure falls to zero and remains steady.
- f) If swab testing may take longer than 1 – 2 days release workover unit and MIRU swab unit to proceed with swab testing.

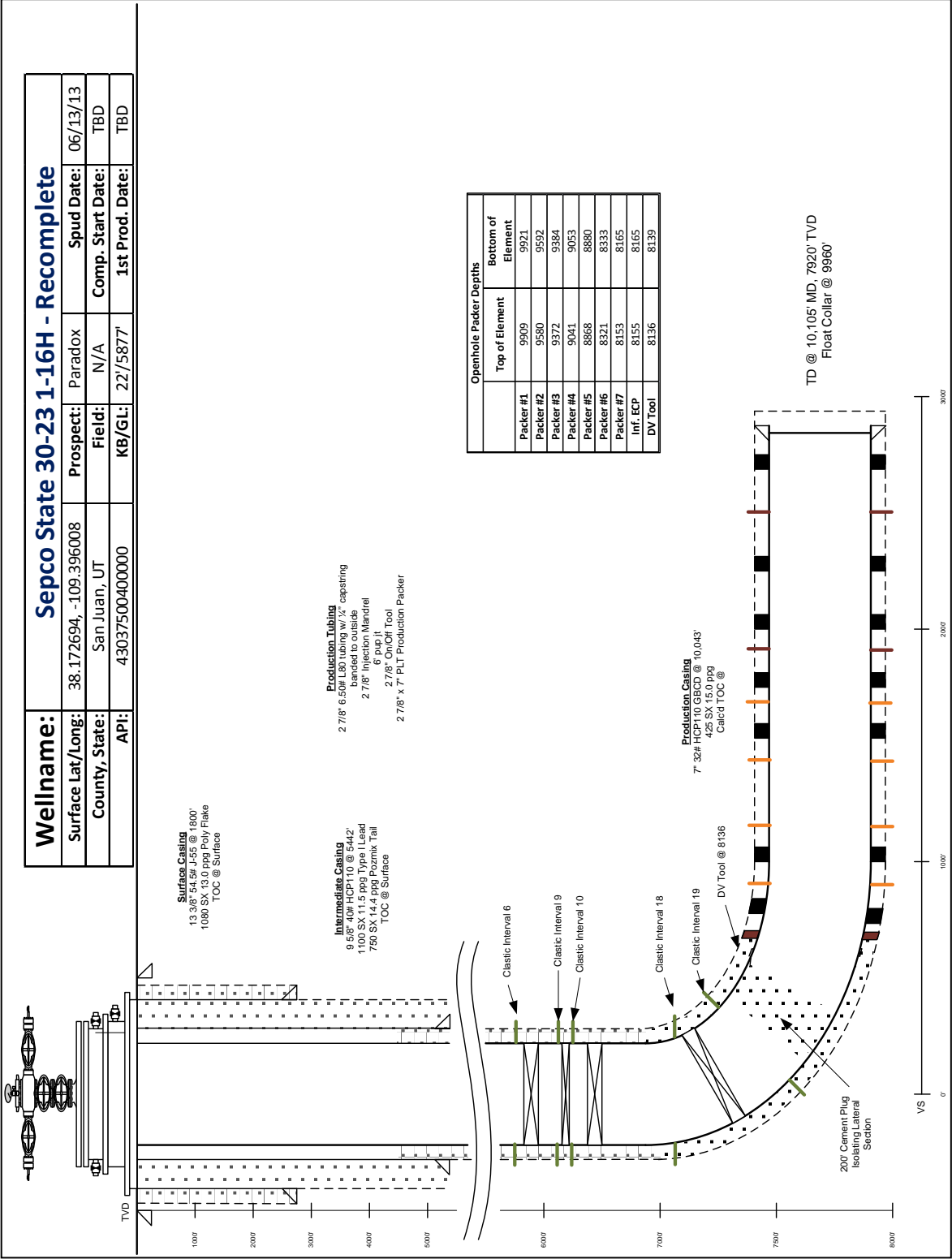
## Clastic 6 Testing

1. MIRU workover unit and associated equipment if applicable.
2. Latch onto tubing and rotate to release packer. TOOH while standing back. LD test packer & redress.
3. PUMU 7" RBP & retrieval head. TIH and set RBP @ 5900'. Pick up 10' and dump 20' of sand on top of RBP (4 cf or 400#s.)
4. TOOH while standing back.
5. Load hole with 6.9# diesel. Pressure test RBP to 3000 psi. Hold test for 5 min.
6. MIRU ELU, lubricator, WL BOP's, & Grease Head.
7. PUMU 4 1/2" x 8' perf guns loaded w/ 6 SPF, 60° phasing. NU lubricator & pressure control package to 7 1/16" 5K BOP's. Pressure test lubricator package to 3000 psi.
8. RIH and correlate depth to openhole GR measurement. Pull into position to perforate Clastic 6 from 5770 – 5778'. Pressure up on casing 200 psi prior to firing. Record pressure change.
9. POOH. RDMO ELU & associated equipment.
10. Open well to flow test starting on a 16/64" choke. Coordinate with engineering for choke adjustments and to determine when to proceed.
11. Ensure well is dead and stable prior to proceeding. PUMU 7" RTTS test packer (or equivalent), 2 7/8" SN, 1 jt of tubing, and 2 7/8" X Nipple.
12. TIH and set test packer at +/- 5720'. Slack off 12 – 15K #'s on packer.
13. PU 2 7/8" swab cups & lubricator. Swab test Clastic interval 6 to determine productivity
  - a) If interval swabs dry, MIRU HP acid pump & iron. Install 2 7/8" 10K TIW valve in workstring. Pressure test lines to 8500 psi.
  - b) Pump 1,000 gallons of 15% HCl w/ NE & 2X FE. Displace acid into formation using mineral oil. Overdisplace by one bbl. Do not exceed a maximum injection rate of 0.5 BPM
  - c) Allow acid to soak on formation for 1 – 2 hrs.
  - d) Flow well back starting on a 16/64" choke. Adjust choke as necessary. Attempt to keep the recovered mineral oil separate from the diesel or brines so that it may be reused.
  - e) Proceed with swab testing after surface pressure falls to zero and remains steady.
  - f) If swab testing may take longer than 1 – 2 days release workover unit and MIRU swab unit to proceed with swab testing.
14. RDMO workover unit and/or swab unit. Release any unneeded surface rentals. Police location.





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<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125 , Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 7/21/2013	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input checked="" type="checkbox"/> OTHER	
	OTHER: <input type="text" value="directional survey"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> September 19, 2013		
<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 8/26/2013	

Robert Case  
1285 Derrick Dr.  
Casper, WY 82604  
Tel. (307) 265-3145  
Fax (307) 265-3150



**Southwestern Energy Company**

**SEPCO State 30-23 #1-16H**

**San Juan County, UT**

**Prepared by: Robert Case**



A Schlumberger Company

1285 Derrick Dr.

Casper, WY 82604

(307) 265-3145

## Directional Survey Certification Form

Southwestern Energy Company

Company

SEPCO State 30-23 #1-16H

Well Name

August 22, 2013

Final Report Date

13FMG0009

Job Number

San Juan County, UT

County/State

43-037-50040

API Number

NAD 27

Geodetic Datum

Nabors M11

Rig Contractor / Name

22'

RKB Height

Type of Surveys

Measurements While Drilling (MWD)

Survey Depths (Measured Depth)

5365'

to

10105'

Survey Dates

07/03/13

to

07/21/13

Persons Performing Surveys

Steve LejeuneChris WoosterJake Newhouse

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Pathfinder Energy Services.

I am authorized and qualified to review the data, calculations and this report, and that the report represents a true and correct Directional Survey of this well based on the original data corrected to True North and obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method.

Robert Case  
Engineer In Charge

August 22, 2013

Date

# PathFinder Energy Services, Inc.

## BHL Report

Page 01/01  
Tie-in Date: 07/03/2013  
Date Completed: 07/21/2013

SOUTHWESTERN ENERGY COMPANY  
SEPCO STATE 30-23 #1-16H  
SAN JUAN COUNTY, UT  
Rig:NABORS M11  
PathFinder Office Supervisor: Dan Harwell  
PathFinder Field Engineers:STEVE LEJEUNE  
CHRIS WOOSTER  
JAKE NEWHOUSE

Survey Horiz. Reference:WELLHEAD  
Ref Coordinates: LAT:38.10.21.7416 N LON:109.23.43.2204 W  
GRID Reference:NAD27 utah south Lambert  
Ref GRID Coord: X: 2605010.2588 Y: 555182.6749  
North Aligned To:TRUE NORTH  
Total Magnetic Correction:10.52° EAST TO TRUE  
Vertical Section Plane: 315.73  
Survey Vert. Reference: 22.00' Rotary Table To Ground  
Altitude:5877.00' Ground To MSL

Measured Depth	10105.00	(feet)
Inclination	90.48	(deg)
Azimuth	315.47	(deg)
True Vertical Depth	7920.70	(feet)
Vertical Section	2770.99	(feet)
Survey X cord	2603073.14	(feet)
Survey Y cord	557164.09	(feet)
Survey Lat	38.17826527 N	(deg)
Survey Lon	109.40192082 W	(deg)
Rectangular Corr. N/S	1981.41 N	(feet)
Rectangular Corr. E/W	1937.12 W	(feet)
Closure Distance	2771.00	(feet)
Direction of Closure	315.65	(deg)
Dogleg Severity	0.00	(deg/100ft)

# PathFinder Energy Services, Inc.

## Survey Report

SOUTHWESTERN ENERGY COMPANY

SEPCO STATE 30-23 #1-16H

SAN JUAN COUNTY, UT

Rig:NABORS M11

PathFinder Office Supervisor: Dan Harwell

PathFinder Field Engineers: STEVE LEJEUNE

CHRIS WOOSTER

JAKE NEWHOUSE

Survey Calculations by PathCalc v2.03 using Minimum Curvature

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:38.10.21.7416 N LON:109.23.43.2204 W

GRID Reference:NAD27 utah south Lambert

Ref GRID Coord: X: 2605010.2588 Y: 555182.6749

North Aligned To:TRUE NORTH

Total Magnetic Correction:10.52° EAST TO TRUE

Vertical Section Plane: 315.73

Survey Vert. Reference: 22.00' Rotary Table To Ground

Altitude:5877.00' Ground To MSL

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
THE FOLLOWING ARE GYRODATA GYRO SURVEYS.												
100.00	0.15	97.72	100.00	100.00	-0.10	0.01 S	0.13 E	38.17270595 N	109.39533855 W	0.13@	96.24	0.00
200.00	0.13	67.87	200.00	100.00	-0.25	0.01 N	0.36 E	38.17270601 N	109.39533773 W	0.36@	88.26	0.07
300.00	0.12	95.41	300.00	100.00	-0.37	0.04 N	0.57 E	38.17270609 N	109.39533700 W	0.57@	85.62	0.06
400.00	0.13	75.24	400.00	100.00	-0.50	0.06 N	0.79 E	38.17270612 N	109.39533626 W	0.79@	85.43	0.04
500.00	0.15	67.74	500.00	100.00	-0.61	0.14 N	1.02 E	38.17270633 N	109.39533545 W	1.03@	82.09	0.03
600.00	0.16	68.44	600.00	100.00	-0.71	0.24 N	1.27 E	38.17270659 N	109.39533457 W	1.29@	79.19	0.01
700.00	0.07	19.17	700.00	100.00	-0.74	0.35 N	1.42 E	38.17270688 N	109.39533404 W	1.46@	76.09	0.13
800.00	0.11	4.17	800.00	100.00	-0.65	0.50 N	1.45 E	38.17270730 N	109.39533393 W	1.53@	70.75	0.05
900.00	0.03	311.10	900.00	100.00	-0.56	0.62 N	1.43 E	38.17270761 N	109.39533397 W	1.56@	66.68	0.10
1000.00	0.19	330.84	1000.00	100.00	-0.37	0.78 N	1.33 E	38.17270806 N	109.39533431 W	1.54@	59.66	0.16
1100.00	0.20	328.35	1100.00	100.00	-0.04	1.07 N	1.16 E	38.17270887 N	109.39533488 W	1.58@	47.23	0.01
1200.00	0.18	315.71	1200.00	100.00	0.29	1.33 N	0.96 E	38.17270960 N	109.39533556 W	1.64@	35.70	0.05
1300.00	0.17	326.87	1300.00	100.00	0.59	1.57 N	0.77 E	38.17271027 N	109.39533621 W	1.75@	26.05	0.04
1400.00	0.15	319.49	1400.00	100.00	0.86	1.79 N	0.60 E	38.17271089 N	109.39533677 W	1.89@	18.54	0.03
1500.00	0.17	309.30	1500.00	100.00	1.14	1.99 N	0.40 E	38.17271143 N	109.39533745 W	2.03@	11.43	0.03
1600.00	0.09	289.16	1600.00	100.00	1.36	2.11 N	0.21 E	38.17271177 N	109.39533809 W	2.12@	5.77	0.09
1700.00	0.19	304.55	1700.00	100.00	1.59	2.23 N	0.00 E	38.17271212 N	109.39533882 W	2.23@	0.06	0.11
1800.00	0.06	300.89	1800.00	100.00	1.81	2.35 N	0.18 W	38.17271246 N	109.39533944 W	2.36@	355.64	0.13
1900.00	0.19	253.72	1900.00	100.00	1.94	2.33 N	0.38 W	38.17271242 N	109.39534015 W	2.36@	350.66	0.16
2000.00	0.17	259.10	2000.00	100.00	2.09	2.25 N	0.69 W	38.17271223 N	109.39534122 W	2.36@	343.03	0.03
2100.00	0.22	252.15	2100.00	100.00	2.26	2.17 N	1.02 W	38.17271201 N	109.39534237 W	2.39@	334.88	0.06
2200.00	0.15	281.07	2200.00	100.00	2.45	2.13 N	1.33 W	38.17271194 N	109.39534345 W	2.51@	328.11	0.11
2300.00	0.14	278.10	2299.99	100.00	2.66	2.18 N	1.58 W	38.17271207 N	109.39534431 W	2.69@	324.07	0.01
2400.00	0.22	295.49	2399.99	100.00	2.94	2.28 N	1.87 W	38.17271236 N	109.39534533 W	2.95@	320.57	0.10
2500.00	0.24	305.74	2499.99	100.00	3.32	2.48 N	2.21 W	38.17271295 N	109.39534651 W	3.33@	318.25	0.05



# PathFinder Energy Services, Inc.

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
2600.00	0.23	306.14	2599.99	100.00	3.73	2.72 N	2.55 W	38.17271363 N	109.39534764 W	3.73@	316.90	0.01
2700.00	0.17	304.03	2699.99	100.00	4.07	2.92 N	2.83 W	38.17271420 N	109.39534862 W	4.07@	315.91	0.06
2800.00	0.27	304.49	2799.99	100.00	4.45	3.14 N	3.15 W	38.17271481 N	109.39534970 W	4.45@	314.92	0.10
2900.00	0.19	286.92	2899.99	100.00	4.82	3.32 N	3.50 W	38.17271533 N	109.39535092 W	4.83@	313.48	0.11
3000.00	0.29	251.23	2999.99	100.00	5.08	3.29 N	3.90 W	38.17271527 N	109.39535230 W	5.10@	310.13	0.18
3100.00	0.50	266.54	3099.99	100.00	5.47	3.18 N	4.58 W	38.17271501 N	109.39535466 W	5.57@	304.80	0.23
3200.00	0.56	256.13	3199.98	100.00	6.00	3.04 N	5.49 W	38.17271468 N	109.39535784 W	6.27@	298.97	0.11
3300.00	0.55	246.97	3299.98	100.00	6.42	2.73 N	6.40 W	38.17271390 N	109.39536105 W	6.96@	293.11	0.09
3400.00	0.48	239.94	3399.97	100.00	6.70	2.33 N	7.21 W	38.17271285 N	109.39536387 W	7.57@	287.95	0.09
3500.00	0.55	233.65	3499.97	100.00	6.87	1.84 N	7.95 W	38.17271154 N	109.39536652 W	8.16@	283.02	0.09
3600.00	0.48	219.88	3599.97	100.00	6.89	1.23 N	8.61 W	38.17270992 N	109.39536884 W	8.70@	278.16	0.14
3700.00	0.30	232.74	3699.96	100.00	6.88	0.75 N	9.09 W	38.17270863 N	109.39537054 W	9.12@	274.74	0.20
3800.00	0.76	203.52	3799.96	100.00	6.66	0.01 S	9.56 W	38.17270656 N	109.39537225 W	9.56@	269.93	0.52
3900.00	1.07	190.20	3899.95	100.00	5.87	1.54 S	9.99 W	38.17270239 N	109.39537386 W	10.11@	261.24	0.37
4000.00	1.14	189.11	3999.93	100.00	4.73	3.44 S	10.31 W	38.17269719 N	109.39537513 W	10.87@	251.55	0.07
4100.00	0.92	187.22	4099.91	100.00	3.64	5.22 S	10.57 W	38.17269232 N	109.39537617 W	11.79@	243.72	0.22
4200.00	0.92	194.26	4199.90	100.00	2.72	6.79 S	10.87 W	38.17268802 N	109.39537733 W	12.82@	237.99	0.11
4300.00	0.66	204.64	4299.89	100.00	2.10	8.10 S	11.31 W	38.17268447 N	109.39537896 W	13.91@	234.40	0.30
4400.00	0.75	210.88	4399.88	100.00	1.72	9.18 S	11.88 W	38.17268153 N	109.39538104 W	15.02@	232.31	0.12
4500.00	0.79	211.99	4499.87	100.00	1.39	10.33 S	12.58 W	38.17267843 N	109.39538357 W	16.28@	230.63	0.04
4600.00	0.82	210.88	4599.86	100.00	1.04	11.53 S	13.32 W	38.17267518 N	109.39538621 W	17.61@	229.12	0.03
4700.00	0.87	198.14	4699.85	100.00	0.51	12.86 S	13.92 W	38.17267155 N	109.39538842 W	18.95@	227.26	0.19
4800.00	0.92	200.32	4799.84	100.00	-0.19	14.34 S	14.44 W	38.17266753 N	109.39539032 W	20.34@	225.20	0.06
4900.00	0.97	194.44	4899.83	100.00	-0.97	15.91 S	14.93 W	38.17266325 N	109.39539215 W	21.81@	223.17	0.11
5000.00	1.13	194.38	4999.81	100.00	-1.93	17.68 S	15.38 W	38.17265840 N	109.39539387 W	23.44@	221.02	0.16
5100.00	1.02	199.71	5099.79	100.00	-2.83	19.48 S	15.93 W	38.17265351 N	109.39539591 W	25.16@	219.27	0.15
5200.00	1.00	200.36	5199.78	100.00	-3.59	21.13 S	16.53 W	38.17264901 N	109.39539814 W	26.83@	218.03	0.02
5300.00	0.74	194.16	5299.77	100.00	-4.30	22.58 S	16.99 W	38.17264507 N	109.39539986 W	28.26@	216.97	0.28

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist (ft)	Dir (deg)	DLS (dg/100ft)
** TIED IN TO GYRODATA GYRO SURVEY AT 5365'MD.												
5365.00	0.78	156.74	5364.76	65.00	-4.94	23.39 S	16.92 W	38.17264283 N	109.39539967 W	28.87@	215.88	0.75
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
5532.00	0.97	114.32	5531.74	167.00	-7.31	25.02 S	15.18 W	38.17263826 N	109.39539376 W	29.26@	211.25	0.39
5626.00	0.79	120.47	5625.73	94.00	-8.68	25.67 S	13.90 W	38.17263638 N	109.39538935 W	29.19@	208.43	0.22
5722.00	0.97	108.34	5721.72	96.00	-10.04	26.26 S	12.56 W	38.17263467 N	109.39538473 W	29.11@	205.55	0.27
5817.00	1.06	94.28	5816.70	95.00	-11.41	26.58 S	10.92 W	38.17263369 N	109.39537905 W	28.74@	202.33	0.28
5912.00	1.23	83.29	5911.69	95.00	-12.69	26.53 S	9.03 W	38.17263373 N	109.39537248 W	28.02@	198.80	0.29
6008.00	1.23	71.60	6007.66	96.00	-13.77	26.08 S	7.03 W	38.17263482 N	109.39536548 W	27.01@	195.08	0.26
6103.00	1.67	69.49	6102.63	95.00	-14.77	25.28 S	4.76 W	38.17263690 N	109.39535755 W	25.72@	190.67	0.47
6198.00	1.49	63.61	6197.60	95.00	-15.71	24.24 S	2.36 W	38.17263959 N	109.39534911 W	24.36@	185.56	0.25
6294.00	2.11	66.15	6293.55	96.00	-16.71	22.97 S	0.37 E	38.17264291 N	109.39533950 W	22.98@	179.07	0.65
6389.00	2.20	56.14	6388.48	95.00	-17.65	21.25 S	3.49 E	38.17264744 N	109.39532854 W	21.53@	170.68	0.41
6485.00	2.29	47.96	6484.41	96.00	-18.06	18.94 S	6.44 E	38.17265361 N	109.39531808 W	20.00@	161.22	0.35
6580.00	1.93	48.31	6579.34	95.00	-18.20	16.60 S	9.05 E	38.17265986 N	109.39530884 W	18.91@	151.42	0.38
6676.00	1.41	43.74	6675.30	96.00	-18.24	14.68 S	11.07 E	38.17266503 N	109.39530165 W	18.38@	142.97	0.56
6771.00	1.76	31.79	6770.27	95.00	-17.84	12.59 S	12.65 E	38.17267065 N	109.39529601 W	17.85@	134.88	0.50
6852.00	1.85	35.13	6851.23	81.00	-17.30	10.46 S	14.05 E	38.17267640 N	109.39529095 W	17.52@	126.67	0.17
6884.00	1.67	35.39	6883.21	32.00	-17.12	9.66 S	14.62 E	38.17267857 N	109.39528891 W	17.53@	123.46	0.56
6916.00	3.25	333.78	6915.19	32.00	-16.18	8.47 S	14.49 E	38.17268186 N	109.39528927 W	16.78@	120.30	8.94
6947.00	6.24	318.58	6946.08	31.00	-13.66	6.42 S	12.99 E	38.17268758 N	109.39529434 W	14.49@	116.29	10.38
6979.00	9.85	312.51	6977.76	32.00	-9.19	3.26 S	9.82 E	38.17269644 N	109.39530511 W	10.35@	108.37	11.57
7011.00	13.63	311.90	7009.08	32.00	-2.69	1.11 N	4.99 E	38.17270873 N	109.39532155 W	5.11@	77.48	11.82
7043.00	17.06	313.39	7039.94	32.00	5.76	6.85 N	1.23 W	38.17272489 N	109.39534273 W	6.96@	349.85	10.79
7075.00	19.43	313.57	7070.33	32.00	15.77	13.75 N	8.50 W	38.17274426 N	109.39536747 W	16.16@	328.28	7.41
7106.00	21.81	312.86	7099.34	31.00	26.68	21.22 N	16.45 W	38.17276527 N	109.39539456 W	26.85@	322.21	7.72
7138.00	24.18	312.95	7128.79	32.00	39.16	29.73 N	25.61 W	38.17278920 N	109.39542573 W	39.24@	319.26	7.41
7170.00	26.91	313.39	7157.66	32.00	52.95	39.17 N	35.67 W	38.17281574 N	109.39545998 W	52.98@	317.68	8.55

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
7202.00	29.28	312.95	7185.89	32.00	68.00	49.48 N	46.66 W	38.17284472 N	109.39549740 W	68.01@ 316.68	7.43
7234.00	31.48	312.69	7213.49	32.00	84.16	60.48 N	58.53 W	38.17287565 N	109.39553782 W	84.16@ 315.94	6.89
7265.00	33.15	314.18	7239.69	31.00	100.72	71.87 N	70.56 W	38.17290768 N	109.39557876 W	100.72@ 315.53	5.97
7297.00	35.17	315.06	7266.17	32.00	118.68	84.49 N	83.35 W	38.17294312 N	109.39562223 W	118.69@ 315.39	6.50
7329.00	37.37	315.33	7291.97	32.00	137.61	97.93 N	96.69 W	38.17298082 N	109.39566757 W	137.62@ 315.37	6.89
7361.00	39.66	315.59	7317.01	32.00	157.54	112.13 N	110.66 W	38.17302068 N	109.39571506 W	157.54@ 315.38	7.17
7393.00	42.21	315.59	7341.18	32.00	178.50	127.11 N	125.33 W	38.17306270 N	109.39576490 W	178.51@ 315.40	7.97
7425.00	44.41	314.97	7364.46	32.00	200.45	142.70 N	140.78 W	38.17310647 N	109.39581740 W	200.45@ 315.39	7.00
7456.00	46.52	315.15	7386.20	31.00	222.55	158.34 N	156.39 W	38.17315037 N	109.39587045 W	222.55@ 315.36	6.82
7488.00	48.63	314.62	7407.79	32.00	246.16	175.01 N	173.12 W	38.17319716 N	109.39592735 W	246.17@ 315.31	6.71
7520.00	50.65	314.80	7428.51	32.00	270.54	192.16 N	190.45 W	38.17324533 N	109.39598626 W	270.55@ 315.26	6.33
7552.00	52.50	315.24	7448.40	32.00	295.61	209.89 N	208.17 W	38.17329511 N	109.39604649 W	295.62@ 315.24	5.88
7584.00	54.26	315.15	7467.49	32.00	321.29	228.12 N	226.27 W	38.17334625 N	109.39610801 W	321.30@ 315.23	5.50
7616.00	56.10	314.80	7485.76	32.00	347.56	246.68 N	244.85 W	38.17339837 N	109.39617118 W	347.57@ 315.21	5.82
7648.00	58.12	314.71	7503.13	32.00	374.42	265.60 N	263.93 W	38.17345149 N	109.39623605 W	374.44@ 315.18	6.32
7679.00	60.06	314.62	7519.06	31.00	401.01	284.30 N	282.85 W	38.17350398 N	109.39630037 W	401.03@ 315.15	6.26
7711.00	62.26	315.15	7534.49	32.00	429.04	304.08 N	302.71 W	38.17355951 N	109.39636788 W	429.06@ 315.13	7.03
7743.00	64.63	315.33	7548.80	32.00	457.66	324.40 N	322.86 W	38.17361656 N	109.39643638 W	457.68@ 315.14	7.42
7775.00	67.01	315.33	7561.90	32.00	486.85	345.16 N	343.38 W	38.17367482 N	109.39650612 W	486.87@ 315.15	7.44
7806.00	69.29	315.33	7573.44	31.00	515.62	365.62 N	363.61 W	38.17373224 N	109.39657486 W	515.65@ 315.16	7.35
7838.00	71.58	315.50	7584.15	32.00	545.77	387.10 N	384.77 W	38.17379250 N	109.39664678 W	545.80@ 315.17	7.17
7870.00	72.63	315.76	7593.99	32.00	576.22	408.86 N	406.07 W	38.17385357 N	109.39671913 W	576.25@ 315.20	3.37
7902.00	73.07	315.94	7603.42	32.00	606.80	430.80 N	427.37 W	38.17391512 N	109.39679148 W	606.82@ 315.23	1.48
7934.00	73.42	315.85	7612.65	32.00	637.44	452.81 N	448.69 W	38.17397685 N	109.39686392 W	637.46@ 315.26	1.13
7965.00	73.78	316.03	7621.40	31.00	667.18	474.18 N	469.37 W	38.17403679 N	109.39693417 W	667.20@ 315.29	1.29
7997.00	74.04	315.85	7630.27	32.00	697.92	496.27 N	490.75 W	38.17409877 N	109.39700680 W	697.94@ 315.32	0.98
8028.00	74.39	316.12	7638.70	31.00	727.75	517.72 N	511.48 W	38.17415895 N	109.39707720 W	727.77@ 315.35	1.41
8061.00	74.74	315.94	7647.48	33.00	759.56	540.62 N	533.57 W	38.17422316 N	109.39715222 W	759.58@ 315.38	1.18

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)	DLS (dg/100ft)
8093.00	75.10	315.94	7655.81	32.00	790.46	562.82 N	555.05 W	38.17428545 N	109.39722520 W	790.47@ 315.40	1.13
8124.00	75.53	316.20	7663.67	31.00	820.45	584.42 N	575.86 W	38.17434602 N	109.39729586 W	820.46@ 315.42	1.61
8156.00	76.77	316.12	7671.33	32.00	851.52	606.83 N	597.38 W	38.17440888 N	109.39736895 W	851.53@ 315.45	3.88
8188.00	78.88	316.20	7678.08	32.00	882.79	629.39 N	619.04 W	38.17447215 N	109.39744253 W	882.80@ 315.47	6.60
8220.00	81.07	316.91	7683.65	32.00	914.30	652.26 N	640.71 W	38.17453630 N	109.39751609 W	914.31@ 315.51	7.18
8251.00	82.83	317.00	7687.99	31.00	944.99	674.70 N	661.66 W	38.17459917 N	109.39758719 W	944.99@ 315.56	5.68
8283.00	84.42	317.43	7691.54	32.00	976.78	698.04 N	683.26 W	38.17466458 N	109.39766049 W	976.78@ 315.61	5.15
8315.00	86.17	317.79	7694.17	32.00	1008.65	721.59 N	704.76 W	38.17473057 N	109.39773341 W	1008.65@ 315.68	5.58
8323.00	86.17	317.77	7694.70	8.00	1016.63	727.50 N	710.12 W	38.17474713 N	109.39775161 W	1016.63@ 315.69	0.25
8354.00	87.14	317.79	7696.51	31.00	1047.55	750.42 N	730.92 W	38.17481133 N	109.39782213 W	1047.55@ 315.75	3.13
8418.00	88.02	318.03	7699.21	64.00	1111.45	797.87 N	773.78 W	38.17494425 N	109.39796748 W	1111.45@ 315.88	1.43
8514.00	87.76	316.53	7702.75	96.00	1207.35	868.35 N	838.86 W	38.17514176 N	109.39818830 W	1207.36@ 315.99	1.58
8609.00	87.67	316.99	7706.53	95.00	1302.26	937.50 N	903.89 W	38.17533562 N	109.39840904 W	1302.28@ 316.05	0.49
8705.00	89.52	318.52	7708.89	96.00	1398.16	1008.54 N	968.41 W	38.17553464 N	109.39862785 W	1398.20@ 316.16	2.50
8800.00	90.04	317.91	7709.25	95.00	1493.07	1079.38 N	1031.71 W	38.17573301 N	109.39884246 W	1493.14@ 316.29	0.84
8896.00	89.34	317.64	7709.77	96.00	1589.01	1150.46 N	1096.22 W	38.17593216 N	109.39906127 W	1589.11@ 316.38	0.78
8991.00	86.26	315.77	7713.42	95.00	1683.91	1219.55 N	1161.31 W	38.17612583 N	109.39928222 W	1684.02@ 316.40	3.79
9086.00	84.86	316.13	7720.77	95.00	1778.62	1287.62 N	1227.16 W	38.17631678 N	109.39950592 W	1778.73@ 316.38	1.52
9182.00	83.10	314.79	7730.84	96.00	1874.08	1355.66 N	1294.12 W	38.17650772 N	109.39973347 W	1874.19@ 316.33	2.30
9277.00	78.88	313.30	7745.72	95.00	1967.85	1420.88 N	1361.54 W	38.17669093 N	109.39996284 W	1967.92@ 316.22	4.70
9302.00	78.70	313.27	7750.58	25.00	1992.35	1437.70 N	1379.39 W	38.17673819 N	109.40002361 W	1992.41@ 316.19	0.73
9398.00	75.80	312.31	7771.76	96.00	2085.85	1501.30 N	1448.09 W	38.17691704 N	109.40025757 W	2085.87@ 316.03	3.17
9492.00	71.31	311.18	7798.37	94.00	2175.76	1561.32 N	1515.33 W	38.17708596 N	109.40048673 W	2175.76@ 315.86	4.91
9586.00	69.20	312.42	7830.12	94.00	2264.02	1620.28 N	1581.29 W	38.17725189 N	109.40071149 W	2264.02@ 315.70	2.57
9681.00	72.90	314.67	7860.97	95.00	2353.78	1682.18 N	1646.38 W	38.17742584 N	109.40093305 W	2353.78@ 315.62	4.49
9776.00	75.36	315.54	7886.95	95.00	2445.15	1746.91 N	1710.87 W	38.17760753 N	109.40115227 W	2445.15@ 315.60	2.74
9808.00	76.41	315.84	7894.75	32.00	2476.18	1769.11 N	1732.55 W	38.17766983 N	109.40122593 W	2476.18@ 315.60	3.40
9839.00	77.65	316.28	7901.71	31.00	2506.39	1790.87 N	1753.51 W	38.17773084 N	109.40129713 W	2506.39@ 315.60	4.23

# PathFinder Energy Services, Inc.

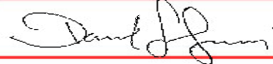
## Survey Report

SOUTHWESTERN ENERGY COMPANY  
 SEPCO STATE 30-23 #1-16H  
 SAN JUAN COUNTY, UT  
 RIG:NABORS M11

Page 06/06

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9853.00	78.70	316.66	7904.58	14.00	2520.09	1800.80 N	1762.95 W	38.17775870 N	109.40132918 W	2520.09@	315.61	7.96
9884.00	81.07	316.64	7910.02	31.00	2550.60	1822.99 N	1783.90 W	38.17782091 N	109.40140030 W	2550.60@	315.62	7.65
9916.00	82.92	316.75	7914.48	32.00	2582.28	1846.05 N	1805.63 W	38.17788555 N	109.40147408 W	2582.29@	315.63	5.79
9947.00	85.12	316.50	7917.71	31.00	2613.11	1868.46 N	1826.80 W	38.17794838 N	109.40154597 W	2613.11@	315.65	7.14
9978.00	86.61	315.86	7919.94	31.00	2644.03	1890.77 N	1848.21 W	38.17801094 N	109.40161868 W	2644.03@	315.65	5.23
10032.00	90.48	315.47	7921.31	54.00	2698.00	1929.37 N	1885.93 W	38.17811925 N	109.40174684 W	2698.00@	315.65	7.20
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 10105' MD.												
10105.00	90.48	315.47	7920.70	73.00	2770.99	1981.41 N	1937.12 W	38.17826527 N	109.40192082 W	2771.00@	315.65	0.00

\*\* The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>9/30/2013</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION         </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see attached pit closure plan.		
<b>Approved by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b>  <b>Date:</b> <u>September 27, 2013</u>  <b>By:</b> <u></u>		
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor
<b>DATE</b> 9/25/2013		

## **Pit Closure Plan**

Southwestern Energy Production Company

SEPCO State 30-23 #1-16H

September 13, 2013

---

### **Background:**

Southwestern Energy Production Company has previously drilled and is the process of completing the SEPCO State 30-23 #1-16H well bore on state surface and mineral in San Juan County, Utah. The SEPCO State 30-23 #1-16H was drilled as a horizontal lateral well bore utilizing a 210 foot by 90 foot by 10 foot deep reserve pit (5,440 cubic yards) with no cuttings pit constructed (see attached Location Layout). The reserve pit did not receive any oil based drilling material during the drilling operation but did receive cuttings derived from salt lithology's encountered in the well bore (see attached Photos).

Following a previously authorized sampling protocol the pit was sampled by Star Point Enterprises, Inc. and Harrison's Oil Field Services, Inc. personnel on August 21, 2013. Sampling of the pit resulted in eleven sludge/soil samples being analyzed for salinity and hydrocarbon content by Inter-Mountain Labs with results reported on September 3, 2013 (attached). The SEPCO State 30-23 #1-16H pit has previously been cleared of visible trash and construction debris and the refuse transported to a State approved solid waste repository. Remaining fluids (water and/or hydrocarbons) have been previously removed by truck transportation to a permitted commercial waste water disposal facility consistent with applicable regulations.

The reserve pit is proposed for closure at this time following the Division of Oil, Gas and Mining (DOGM) published Environmental Handbook (January 1996) and DOGM published Utah Oil and Gas Conservation General Rules and Best Management Practices. Following pit closure interim reclamation is proposed for the pit area and portions of the pad area not necessary for the continued production of the well to reestablish vegetation, reduce dust and erosion and compliment the visual resources of the area. Southwestern Energy Production Company proposes to close and reclaim the reserve pit at the SEPCO State 30-23 #1-16H well site as soon as DOGM approval of this plan is received.

### **Backfill Procedure:**

The remaining contents of the reserve pit (estimated at less than 1,500 yards) will be blended with a track hoe bucket to a uniform consistency while adding additional subsoil, as necessary, until a weight bearing and stabilized consistency is achieved. The reserve pit contents would then be gathered into a more central location of the pit utilizing the track hoe bucket to minimize the spatial extent of the material being stabilized. The existing reserve pit liner would be torn and perforated with excess pit liner being folded in on itself and topped with subsoil until a level and stable surface is achieved. The pit contents would then be covered with a minimum of 6-inches of commercial clay cover and compacted to provide an impermeable layer that minimized potential capillary action to the surface. The clay layer may be keyed into the pit floor utilizing the track hoe to further insure an impermeable barrier. The commercial clay liner would then be covered with a minimum of 36 inches of native fill material being cautious not to breach the clay liner.



Additional native material may then be added until the pit is estimated as being six (6) inches below grade. This elevation would allow for topsoil installation below the final reclaimed grade of the pit area. Six (6) inches of adjacent native topsoil would then be placed over the subsoil. The final contour would be mounded over the top elevation of the reserve pit to promote positive surface water drainage from the pit area and allow for natural settling.

**Reclamation Procedure:**

The subsoil would be compacted to the extent possible. The pit area and any portion of the pad not needed for future operations / production facilities would then be re-contoured to the approximate natural contours utilizing the existing subsoil. Topsoil would be spread evenly across the entire pit area and portion of the pad. Topsoil previously salvaged from the pits area would be graded to a depth optimum to maintain topsoil viability, seeded with the landowner prescribed seed mixture and, if available, covered with mulch for protection from wind and water erosion and to discourage the invasion of weeds.

The interim reclamation would be completed as soon as the pit is backfilled to reestablish vegetation, reduce dust and erosion and compliment the visual resources of the area. All equipment and debris would be removed from the area proposed for reseeding. The area not proposed for future operations and other disturbed areas not needed for future operations would be re-contoured to blend with the surrounding area and reseeded at 12 lbs /acre with the following native grass seeds:

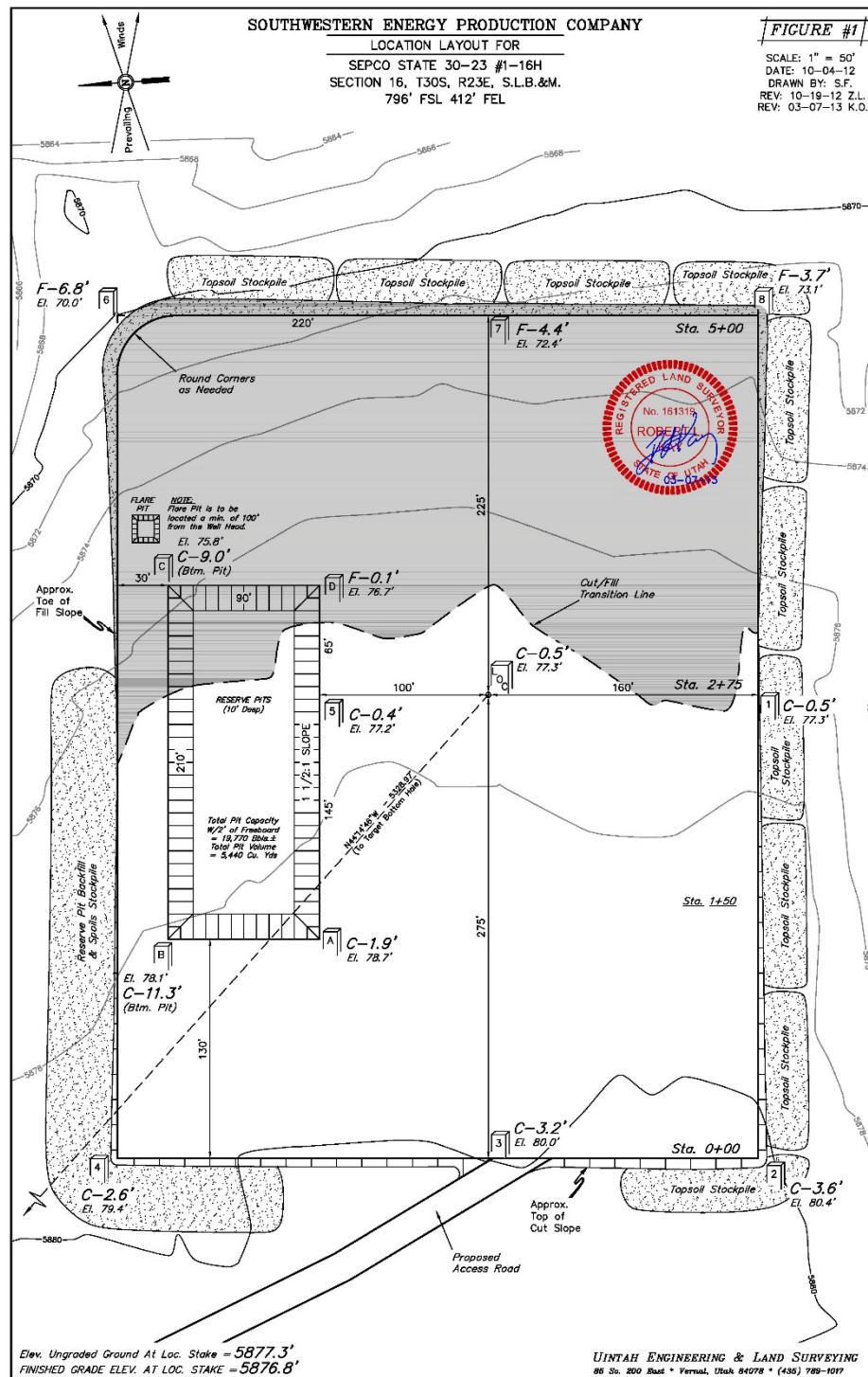
Hatch Point area Seed Mix: 12 lbs/acre

- |   |                |
|---|----------------|
| ○ Sand dropseed – <i>Sporobolus cryptandurs</i>     | (3 lbs / acre) |
| ○ Fourwing Saltbush – <i>Atriplex canescens</i>     | (3 lbs / acre) |
| ○ Needle and Thread Grass -                         | (4 lbs / acre) |
| ○ Indian Rice Grass – <i>Achnatherum himenoides</i> | (4 lbs / acre) |

The entire reclaimed area may be fenced to prevent excessive grazing and minimize the incidental disturbance for a period of two years. Reclaimed areas receiving incidental disturbance during the life of the project would be re-contoured and reseeded as soon as practical. The operator would monitor reclamation success and control noxious weeds within the reclaimed area or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the County Extension Office.



## Location Layout





## Photos



## Sample Analysis



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

Date: 9/3/2013

**CLIENT:** Harrison Oilfield Service  
**Project:** Sepco State 30-23 1-16  
**Lab Order:** S1308405

### CASE NARRATIVE

Report ID: S1308405001

Sample 30-23 1-16 was received on August 22, 2013.

Samples were analyzed using the methods outlined in the following references:

U.S.E.P.A. 600/2-78-054 "Field and Laboratory Methods Applicable to Overburden and Mining Soils", 1978  
American Society of Agronomy, Number 9, Part 2, 1982  
USDA Handbook 60 "Diagnosis and Improvement of Saline and Alkali Soils", 1969  
Wyoming Department of Environmental Quality, Land Quality Division, Guideline No. 1, 1984  
New Mexico Overburden and Soils Inventory and Handling Guideline, March 1987  
State of Utah, Division of Oil, Gas, and Mining: Guidelines for Management of Topsoil and Overburden for Underground and Surface Coal Mining, April 1988  
Montana Department of State Lands, Reclamation Division: Soil, Overburden, and Regraded Spoil Guidelines, December 1994  
State of Nevada Modified Sobek Procedure  
Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All Quality Control parameters met the acceptance criteria defined by EPA and Inter-Mountain Laboratories except as indicated in this case narrative.

Ten of 11 sample containers were composited prior to analysis for Chloride, SAR, and ESP analysis. The remaining sample container was analyzed for DRO, GRO, and BETX.

Reviewed by:

*Karen A Secor*

Karen Secor, Soil Lab Supervisor

Page 1 of 1

RECEIVED: Sep. 25, 2013





Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

**Soil Analysis Report**  
**Harrison Oilfield Service**  
P.O. Box 1087  
Moab, UT 84532

Report ID: S1308405001

Project: Sepco State 30-23 1-16

Date Reported: 9/3/2013

Date Received: 8/22/2013

Work Order: S1308405

Lab ID	Sample ID	Saturation	Electrical	PE	PE	PE	SAR	Chloride
		%	Conductivity	Calcium	Magnesium	Sodium		PE
			dS/m	meq/L	meq/L	meq/L		ppm
S1308405-001	30-23 1-16	54.4	27.8	74.6	0.42	377	61.6	15400

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A. Secor  
Karen Secor, Soil Lab Supervisor

Page 1 of 2



Inter-Mountain Labs

1673 Terra Avenue, Sheridan, Wyoming 82801 ph: (307) 672-8945

Your Environmental Monitoring Partner

**Soil Analysis Report**  
**Harrison Oilfield Service**

Report ID: S1308405001

Project: Sepco State 30-23 1-16  
Date Received: 8/22/2013P.O. Box 1087  
Moab, UT 84532Date Reported: 9/3/2013  
Work Order: S1308405

Lab ID	Sample ID	CEC	Available Sodium	Exchangeable Sodium	ESP
		meq/100g	meq/100g	meq/100g	%
S1308405-001	30-23 1-16	13.1	24.4	3.89	29.7

These results apply only to the samples tested.

Abbreviations for extractants: PE= Saturated Paste Extract, H2OSol= water soluble, AB-DTPA= Ammonium Bicarbonate-DTPA, AAO= Acid Ammonium Oxalate

Abbreviations used in acid base accounting: T.S.= Total Sulfur, AB= Acid Base, ABP= Acid Base Potential, PyrS= Pyritic Sulfur, Pyr+Org= Pyritic Sulfur + Organic Sulfur, Neutral. Pot.= Neutralization Potential

Miscellaneous Abbreviations: SAR= Sodium Adsorption Ratio, CEC= Cation Exchange Capacity, ESP= Exchangeable Sodium Percentage

Reviewed by: Karen A Secor  
Karen Secor, Soil Lab Supervisor

Page 2 of 2



Inter-Mountain Laboratories, Inc  
555 Absaroka Street, Sheridan, Wyoming 82801

(307) 674-7506

Date: 8/29/2013

---

**CLIENT:** Harrison's Oil Field Service  
**Project:** Sepco State 30-23 1-16  
**Lab Order:** O1308027

**CASE NARRATIVE**  
**Report ID:** O1308027001

---

This data package consists of the following:  
Case Narrative - 1 page  
Sample Analysis Report - 1 page  
Quality Control Reports - 5 pages  
Copy of the Chain of Custody Record - 1 page

---

Samples were analyzed for organic constituents using the methods outlined in the following references:

- Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition, United States Environmental Protection Agency (USEPA).

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All method blanks, duplicates, laboratory spikes, and/or matrix spikes met quality assurance objectives.

Data qualifiers are defined at the bottom of each page.

Prep Comments for Sample O1308027-001A: Amber extract



Inter-Mountain Laboratories, Inc  
555 Absaraka Street, Sheridan, Wyoming 82801

(307) 674-7506

### Sample Analysis Report

**CLIENT:** Harrison's Oil Field Service  
3001 E. Bench Rd  
Moab, UT 84532

**Date Reported:** 8/29/2013

**Report ID:** O1308027001

**Project:** Sepco State 30-23 1-16  
**Lab ID:** O1308027-001  
**Client Sample ID:** 30-23 1-16  
**Matrix:** Soil

**Work Order:** O1308027  
**Collection Date:** 8/21/2013 9:45:00 AM  
**Date Received:** 8/22/2013  
**COC:** 130752

Analyses	Result	RL	Limits	Qual	Units	Date Analyzed/Init
<b>8260 B MBTEXN-Soil</b>						
Benzene	ND	0.5			mg/Kg	Prep Date: 8/27/2013 08/27/2013 SK
Toluene	ND	0.5			mg/Kg	08/27/2013 SK
Ethylbenzene	ND	0.5			mg/Kg	08/27/2013 SK
m,p-Xylenes	ND	1.0			mg/Kg	08/27/2013 SK
o-Xylene	ND	0.5			mg/Kg	08/27/2013 SK
Xylenes, Total	ND	1.5			mg/Kg	08/27/2013 SK
GRO by 8260 (nC6-nC10)	11	10			mg/Kg	08/27/2013 SK
Surr: 4-Bromofluorobenzene	79.2		61-122		%REC	08/27/2013 SK
<b>8015 C Diesel Range Organics-Soil</b>						
Diesel Range Organics (nC10-nC32)	240	25			mg/Kg	Prep Date: 8/28/2013 08/28/2013 MAB
Surr: o-Terphenyl	89.5		47-121		%REC	08/28/2013 MAB

These results apply only to the samples tested.

RL - Reporting Limit

Qualifiers:	* Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	D Diluted out of recovery limit	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	M Matrix Effect
	ND Not Detected at the Reporting Limit	S Spike Recovery outside accepted recovery limits

Reviewed by: Lisa Balstad  
Lisa Balstad, Project Manager

Page 1 of 1

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Inter-Mountain Laboratories, Inc.  
555 Absaroka Street, Sheridan, Wyoming 82801  
(307) 674-7506

## ANALYTICAL QC SUMMARY REPORT

Date: 8/29/2013

CLIENT: Harrison's Oil Field Service  
Work Order: O1308027  
Project: Sepco State 30-23 1-16

Report ID: O1308027001Q

TestCode: 8015C\_DROS

Sample ID: MB-5627	SampType: MBLK	TestCode: 8015C_DROS	Units: mg/Kg	Prep Date: 8/28/2013	RunNo: 7138						
Client ID: ZZZZZ	Batch ID: 5627	Analysis Date: 8/28/2013	SeqNo: 106205								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (nC10-nC32)	ND	25									
Surr: o-Terphenyl					76.2	47	121				

Sample ID: LCS-5627	SampType: LCS	TestCode: 8015C_DROS	Units: mg/Kg	Prep Date: 8/28/2013	RunNo: 7138						
Client ID: ZZZZZ	Batch ID: 5627	Analysis Date: 8/28/2013	SeqNo: 106206								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (nC10-nC32)	142.1	25	200		71.1	44	99				
Surr: o-Terphenyl					93.1	47	121				

Sample ID: LCSD-5627	SampType: LCSD	TestCode: 8015C_DROS	Units: mg/Kg	Prep Date: 8/28/2013	RunNo: 7138						
Client ID: ZZZZZ	Batch ID: 5627	Analysis Date: 8/28/2013	SeqNo: 106207								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (nC10-nC32)	145.1	25	200	0	72.5	44	99	142.1	2.05	20	
Surr: o-Terphenyl				0	88.4	47	121	0	0	20	

Qualifiers: D Diluted out of recovery limit E Value above quantitation range H Holding times for preparation or analysis exceeded  
J Analyte detected below quantitation limits M Matrix Effect ND Not Detected at the Reporting Limit  
R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery limits

Page 1 of 5

RECEIVED: Sep. 25, 2013





Inter-Mountain Laboratories, Inc.  
555 Absaraka Street, Sheridan, Wyoming 82801  
(307) 674-7506

## ANALYTICAL QC SUMMARY REPORT

Date: 8/29/2013

CLIENT: Harrison's Oil Field Service  
Work Order: O1308027  
Project: Sepco State 30-23 1-16

Report ID: O1308027001Q

TestCode: 8015C\_DROS

Sample ID: O1308027-001AMS	SampType: MS	TestCode: 8015C_DROS	Units: mg/Kg	Prep Date: 8/28/2013	RunNo: 7138						
Client ID: 30-23 1-16	Batch ID: 5627	Analysis Date: 8/28/2013	SeqNo: 106209								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (nC10-nC32)	373.2	25	200	237.2	68	28	106	0	0		
Surr: o-Terphenyl				0	90.3	47	121	0	0		

Sample ID: O1308027-001ADUP	SampType: DUP	TestCode: 8015C_DROS	Units: mg/Kg	Prep Date: 8/28/2013	RunNo: 7138						
Client ID: 30-23 1-16	Batch ID: 5627	Analysis Date: 8/28/2013	SeqNo: 106208								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (nC10-nC32)	206.4	25	0	0	0	0	0	237.2	13.9	20	
Surr: o-Terphenyl				0	87.7	47	121	0	0	20	

<b>Qualifiers:</b>	D Diluted out of recovery limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
J Analyte detected below quantitation limits	M Matrix Effect	ND Not Detected at the Reporting Limit	
R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits		

Page 2 of 5

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Inter-Mountain Laboratories, Inc.  
555 Absaraka Street, Sheridan, Wyoming 82801  
(307) 674-7506

## ANALYTICAL QC SUMMARY REPORT

CLIENT: Harrison's Oil Field Service  
Work Order: O1308027  
Project: Sepco State 30-23 1-16

Date: 8/29/2013  
Report ID: O1308027001Q  
TestCode: 8260MBTEXN\_S

Sample ID: MB-5626	SampType: MBLK	TestCode: 8260MBTEXN	Units: mg/Kg	Prep Date: 8/27/2013	RunNo: 7136						
Client ID: ZZZZZ	Batch ID: 5626	Analysis Date: 8/27/2013	SeqNo: 106185								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Toluene	ND	0.50									
Ethylbenzene	ND	0.50									
m,p-Xylenes	ND	1.0									
o-Xylene	ND	0.50									
Surr: 4-Bromofluorobenzene					87.3	61	122				

Sample ID: LCS-5626	Sample Type: LCS	TestCode: 8260MBTEXN	Units: mg/Kg	Prep Date: 8/27/2013	RunNo: 7136						
Client ID: ZZZZZ	Batch ID: 5626	Analysis Date: 8/27/2013	SeqNo: 106186								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	9.490	0.50	10		94.9	71	113				
Toluene	9.230	0.50	10		92.3	77	115				
Ethylbenzene	9.530	0.50	10		95.3	78	120				
m,p-Xylenes	19.34	1.0	20		96.7	76	119				
o-Xylene	9.135	0.50	10		91.4	77	120				
Surr: 4-Bromofluorobenzene					85.7	61	122				

Qualifiers:	D Diluted out of recovery limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	M Matrix Effect	ND Not Detected at the Reporting Limit
	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits	

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Inter-Mountain Laboratories, Inc  
555 Absaraka Street, Sheridan, Wyoming 82801  
(307) 674-7506

## ANALYTICAL QC SUMMARY REPORT

Date: 8/29/2013

CLIENT: Harrison's Oil Field Service

Report ID: O1308027001Q

Work Order: O1308027

Project: Sepco State 30-23 1-16

TestCode: 8260MBTEXN\_S

Sample ID: LCSD-5626	Samp Type: LCSD	TestCode: 8260MBTEXN	Units: mg/Kg	Prep Date: 8/27/2013	RunNo: 7136						
Client ID: ZZZZZ	Batch ID: 5626	Analysis Date: 8/27/2013	SeqNo: 106187								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	10.72	0.50	10	0	107	71	113	9.49	12.2	20	
Toluene	10.58	0.50	10	0	106	77	115	9.23	13.7	20	
Ethylbenzene	11.14	0.50	10	0	111	78	120	9.53	15.6	20	
m,p-Xylenes	22.82	1.0	20	0	114	76	119	19.34	16.5	20	
o-Xylene	10.95	0.50	10	0	110	77	120	9.135	18.1	20	
Surr: 4-Bromofluorobenzene				0	94.7	61	122	0	0	20	

Sample ID: O1308027 001AMS	Sample Type: MS	TestCode: 8260MBTEXN	Units: mg/Kg	Prep Date: 8/27/2013	RunNo: 7136						
Client ID: 30-23 1-16	Batch ID: 5626	Analysis Date: 8/27/2013	SeqNo: 106190								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD RefVal	%RPD	RPDLimit	Qual
Benzene	9.925	0.50	10	0	99.2	46	127	0	0		
Toluene	11.19	0.50	10	0	112	67	119	0	0		
Ethylbenzene	10.02	0.50	10	0	100	70	122	0	0		
m,p-Xylenes	20.78	1.0	20	0	104	68	124	0	0		
o-Xylene	9.830	0.50	10	0	96.3	69	124	0	0		
Surr: 4-Bromofluorobenzene				0	86	61	122	0	0		

Qualifiers:	D Diluted out of recovery limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	M Matrix Effect	ND Not Detected at the Reporting Limit
	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits	

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RECEIVED: Sep. 25, 2013



Inter-Mountain Laboratories, Inc.  
555 Absaroka Street, Sheridan, Wyoming 82801  
(307) 674-7506

## ANALYTICAL QC SUMMARY REPORT

CLIENT: Harrison's Oil Field Service  
Work Order: O1308027  
Project: Sepco State 30-23 1-16

Date: 8/29/2013  
Report ID: O1308027001Q  
TestCode: 8260MBTEXN\_S

Sample ID: O1308027-001ADUP	SampType: DUP	TestCode: 8260MBTEXN	Units: mg/Kg	Prep Date: 8/27/2013	RunNo: 7136						
Client ID: 30-23 1-16	Batch ID: 5626	Analysis Date: 8/27/2013	SeqNo: 106189								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50	0	0	0	0	0	0	0	20	
Toluene	ND	0.50	0	0	0	0	0	0	0	20	
Ethylbenzene	ND	0.50	0	0	0	0	0	0	0	20	
m,p-Xylenes	ND	1.0	0	0	0	0	0	0	0	20	
o-Xylene	ND	0.50	0	0	0	0	0	0	0	20	
Surr: 4-Bromofluorobenzene				0	88	61	122	0	0	20	

Qualifiers:	D Diluted out of recovery limit	E Value above quantitation range	H Holding times for preparation or analysis exceeded
	J Analyte detected below quantitation limits	M Matrix Effect	ND Not Detected at the Reporting Limit
	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery limits	

Page 5 of 5

IML Inter-Mountain Labs		Sheridan, WY and Gillette, WY		- CHAIN OF CUSTODY RECORD -										
Client Name <b>Harrison's</b>				Project Identification <b>Sepco State 30-23 1-16</b>				Sampler (Signature/Printed) <b>Don Hamilton / Don Hamilton</b>				Telephone # <b>435-719-2018</b>		
Report Address <b>3001 E. Bench Road Moab, Utah 84532</b>				Contact Name <b>Don Hamilton</b>				ANALYSES / PARAMETERS						
Invoice Address <b>Harrison's 3001 E. Bench Road, Moab, UT 84532</b>				Email <b>starpoint@stx.net</b>				Chloride				REMARKS		
				Phone <b>435-719-2018</b>				Salts (SAR)						
				Purchase Order #				Salts (ESP)						
				Quote #				Hydrocarbons (TPH)						
								BTEX 8260						
ITEM	LAB ID (Lab Use Only)	DATE SAMPLED	TIME SAMPLED	SAMPLE IDENTIFICATION		Matrix	# of Containers							REMARKS
1	51308405	8-21-13	0945	30-23 1-16		Sludge	11	1	1	1	1	1	1	Composite Sample
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
LAB COMMENTS		Relinquished By (Signature/Printed) <b>Don Hamilton / Don Hamilton</b>				DATE <b>8-21-13</b>	TIME	Received By (Signature/Printed) <b>Kasey Seeco</b>				DATE <b>8-22-13</b>	TIME	
SHIPPING INFO		MATRIX CODES		TURNAROUND TIMES		COMPLIANCE INFORMATION				ADDITIONAL REMARKS				
<input checked="" type="checkbox"/> UPS		Water WT		<input type="checkbox"/> Check desired service		Compliance Monitoring? <b>Y/N</b>				<b>Composite prior to analysis</b>				
<input type="checkbox"/> Fed Express		Soil SL		<input type="checkbox"/> Standard turnaround		Program (SDWA, NPDES,...)								
<input type="checkbox"/> US Mail		Solid SD		<input checked="" type="checkbox"/> RUSH - 5 Working Days		PWSID / Permit #				<b>Charlie Harrison assisted</b>				
<input type="checkbox"/> Hand Carried		Trip Blank TB		<input type="checkbox"/> URGENT - < 2 Working Days		Chlorinated? <b>Y/N</b>								
<input type="checkbox"/> Other		Other OT		Rush & Urgent Surcharges will be applied		Sample Disposal: Lab <input checked="" type="checkbox"/> Client				<b>90's, cloudy, humid</b>				

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125 , Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/5/2013	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> October 02, 2013		
<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/5/2013	

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**WellWork AFE Chronological  
Regulatory Report**

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Wellwork Details					
Date :	8/9/2013	Activity:	MIRU WOR	Rig Name:	Days :1
Daily Report Summary :					
Daily Report Detail:		Road Rig to location and spot equipment			
Date :	8/12/2013	Activity:	MIRU WOR	Rig Name:	Days :4
Daily Report Summary :					
Daily Report Detail:					
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCP=0PSI,SIICP=0PSI,SISCP=0PSI.		
From 7:00 To 9:30	2.5 hrs	Category/Rmks:	: MIRU WORKOVER RIG AND EQUIPMENT. TOOK DELIVERY OF 2 7/8" 8.7# P110 TUBING. RACKED AND TALLIED.		
From 9:30 To 14:30	5 hrs	Category/Rmks:	: PUMU AND TIH WITH 5 7/8" TRI-CORE ROCK BIT, BIT SUB, X/OVER, 33 JOINTS OF 2 7/8" P110 PH6 7.9# TUBING,X/OVER, 12-3 1/8" DRILL COLLARS, X/OVER, 1 JOINT OF 2 7/8" P110 PH6 7.9# TUBING. INSTALLED TIW VALVE.		
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: SECURED WELL. SHUT DOWN DUE TO WEATHER CONDITIONS		
From 15:00 To 17:00	2 hrs	Category/Rmks:	: TIH WITH 107 JOINTS OF 2 7/8" TUBING. EOT @ 4744' INSTALLED TIW VALVE.		
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY.		
Date :	8/13/2013	Activity:	DRILL OUT PLUG	Rig Name:	Days :5
Daily Report Summary :					
Daily Report Detail:					
From 6:00 To 7:00	1 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCP=0PSI,SIICP=0PSI,SISCP=0PSI,SITP=0PSI		
From 7:00 To 9:00	2 hrs	Category/Rmks:	: OPENED THE WELL. TIH WITH 110 JOINTS OF 2 7/8" P110 PH6 7.9# TAGGED ON JOINT # 250 @ 8140'.		
From 9:00 To 10:00	1 hrs	Category/Rmks:	: RU POWER SWIVEL WITH KELLY VALVE AND SWIVEL SUB. STARTED CIRCULATING @ 3 BPM @ 1500 PSI. TAGGED UP.		
From 10:00 To 12:00	2 hrs	Category/Rmks:	: DRILLED THRU FLOAT PLUG,ALUMINUM PROFILE IN DV TOOL, CASI IRON FREE FALL PLUG. @ 70 RPM WITH 10-15K WOB.		
From 12:00 To 14:00	2 hrs	Category/Rmks:	: PU JOINT # 251 RIH TO 8193'. CIRCULATED CLEAN. SPOTTED 10 BBLS OF DIESEL 7893'-8193'. RD POWER SWIVEL.		
From 14:00 To 14:30	0.5 hrs	Category/Rmks:	: PU TIH WITH 6 JOINTS OF 2 7/8" P110 PH6 7.9# TUBING TO 8370' TAGGED UP SOLID. RU POWER SWIVEL CIRCULATED DOWN THE TUBING OUT THE CASING.		
From 14:30 To 15:30	1 hrs	Category/Rmks:	: DRILLED FROM 8730'-8740'. CHASED DOWN HOLE TO 8566' SEEING NO INDICATION OF DRAG. RD POWER SWIVEL.		
From 15:30 To 17:00	1.5 hrs	Category/Rmks:	: TIH WITH 45 JOINTS OF 2 7/8" P110 PH6 7.9# TAGGED PBTD ON JOINT # 308 @ 9965'. PU OFF BOTTOM 5' RU POWER SWIVEL.		
From 17:00 To 18:30	1.5 hrs	Category/Rmks:	: CIRCULATED DOWN THE CASING OUT THE TUBING WITH 10# BRIEN RECOVERING 50 BBLS OF OIL BASE MUD IN TRANSPORT TRUCK. CIRCULATED A TOTAL OF 180 BBLS. RECOVERING DIESEL SPACER AND CLEAN 10# BRIEN.		
From 18:30 To 19:15	0.75 hr	Category/Rmks:	: RD POWER SWIVEL. POOH WITH 10 JOINTS OF 2 7/8" P110 PH6 7.9# TUBING. EOT @ 9654'.		
From 19:15 To 19:30	0.25 hr	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION SHUT DOWN FOR THE DAY.		



Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPSCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/14/2013	Activity:	Run CIBP	Rig Name:		Days :	6
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCP=0PSI,SIICP=0PSI,SICP=0PSI,SITP=0PSI.				
From 7:00 To 12:00	5 hrs	Category/Rmks:	: OPENED WELL POOH WITH 265 JTS. OF 2 7/8" P110 PH6 7.9# TUBING STANDING IN THE DERRICK, LD X/OVER, 12-3 1/8" DRILL COLLARS, X/OVER. POOH WITH 33 JTS OF 2 7/8" P110 PH6 7.9# TUBING STANDING IN THE DERRICK, LD X/OVER, BIT SUB, 5 7/8" BIT.				
From 12:00 To 17:00	5 hrs	Category/Rmks:	: PUMU 7" 32# CIBP AND HYDRAULIC SETTING TOOL, X/OVER, TIH WITH 319 JTS. OF 2 7/8" P110 PH6 7.9# . DROPPED 3/4" BALL PUMPED DOWN THE TUBING 45 BBLs BALL SEATED. PRESSURED UP TO 2500 PSI. SET CIBP @ 9930' CENTER OF ELEMENT. BLEED OFF PRESSURE TO 0 PSI. PRESSURED UP TO 3500 PSI. OPENING BYPASS PORTS. PRESSURE 0 PSI. PULLED 15K OVER STING WEIGHT. COULD NOT GET TO 3500 PSI DUE TO WELL CIRCULATING. SHUT PUMP DOWN. SHEARED MANDREL AT 60K OVER STRING WEIGHT. TAGGED PLUG. PU 10' SHUT TIW VALVE. TESTED TO 2000 PSI DOWN CASING. (TEST HELD)				
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: POOH LD 10 JOINTS OF 2 7/8" P110 PH6 7.9# TUBING. EOT @ 9621'				
From 17:30 To 17:45	0.25 hr	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION SHUT DOWN FOR THE DAY.				
Date :	8/15/2013	Activity:	CBL	Rig Name:		Days :	7
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCP=0PSI,SIICP=0PSI,SICP=0PSI,SITP=0PSI.				
From 7:00 To 12:30	5.5 hrs	Category/Rmks:	: POOH LD 309 JOINTS OF 2 7/8" PH6 P110 7.9# TUBING,X/OVER, HYD SETTING TOOL. LOADED OUT WORKSTRING AND TOOLS.				
From 12:30 To 16:30	4 hrs	Category/Rmks:	: MIRU ELU WITH 5K GREASE HEAD PACKAGE. PUMU CBL/CCL TOOLS FOR 7" CASING. NU LUBRICATOR TO 7 1/16" 5K BOPS. RIH TO 8068' LOGGED TO 6800' WITH NO PRESSURE ON THE CASING. RIH TO 8060' LOGGED TO 3700' TOC 3900' WITH 1000 PSI ON CASING . POOH LD CBL/CCL TOOLS.				
From 16:30 To 17:30	1 hrs	Category/Rmks:	: RDMO ELU. ND 7 1/16" BOPS, 10K X 5K SPOOL, NU 10K BLIND FLANGE.				
From 17:30 To 18:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.				
Date :	8/16/2013	Activity:	RUN Production Tubing	Rig Name:		Days :	8
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCP=0PSI,SIICP=0PSI,SICP=0PSI				
From 7:00 To 13:30	6.5 hrs	Category/Rmks:	: OPEN CASING PRESSURE UP TO 4800 PSI. WITH RIG PUMP. RU HIGH PRESSURE PUMP TRIED TO PRESSURE UP, PUMP WAS UNABLE TO BRING PRESSURE UP. WAITED ON ANOTHER HIGH PRESSURE PUMP.				
From 13:30 To 14:00	0.5 hrs	Category/Rmks:	: RU HIGH PRESSURE PUMP,PRESSURE TESTED IRON TO 7500 PSI., TESTED CASING TO 7000PSI. FOR 15 MINS CHART IN WELL FILE.BLEED PRESSURE OFF TO 0 PSI.				
From 14:00 To 15:00	1 hrs	Category/Rmks:	: ND 10K BLIND FLANGE, NU 10K X 5K SPOOL AND 7 1/16" DOUBLE 5K BOPS, WITH BLINDS ON THE BOTTOM, 2 7/8" PIPE RAMS ON TOP.				
From 15:00 To 18:30	3.5 hrs	Category/Rmks:	: PUMU RENTRY GUIDE,6' 6.5# 2 7/8" L80 EUE, 7" PAKER, 1-JOINT OF 2 7/8" 6.5# L80 EUE, 2' 6.5# 2 7/8" L80 EUE PUP JOINT,207 JOINTS OF 2 7/8" L80 EUE TUBING. TO A DEPTH OF 6807.10 '. SET PKR WITH 15 IN COMPRESSION. LOWER TUBING AND HANGER 7 1/16" 10K TUBING HEAD.				
From 18:30 To 19:30	1 hrs	Category/Rmks:	: ND BOPS, 5K X 10K SPOOL, NU 7 1/16" 10K PRODUCTION TREE.				
From 19:30 To 20:00	0.5 hrs	Category/Rmks:	: TESTED TREE TO 10,000 PSI. TESTED PAKER TO 2000 PSI. BLEED OFF TO 0 PSI. SHUT WELL IN.				
From 20:00 To 20:30	0.5 hrs	Category/Rmks:	: RDMO WORKOVER UNIT AND EQUIPMENT TO SIDE OF LOCATION.				
From 20:30 To 21:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION SHUT DOWN FOR THE DAY.				



Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPSCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/17/2013	Activity:	PERF	Rig Name:		Days :	9
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SISCIP=0PSI,SIICP=0PSI,SICP=0PSI,SITP=0PSI				
From 7:00 To 12:00	5 hrs	Category/Rmks:	: MIRU 1 1/4" CTU,FLUID PUMP,CRANE & INJECTOR HEAD. PU 2" X 1.25"CTC. PULLED TESTED TO 10K AND PRESSURE TESTED 2500 PSI. PUMU 2" WASH NOZZLE. NU TO 2 9/16" 10K GATE VALVE ON TOP OF PRODUCTION TREE. PRESSURE TESTED TREE TO 6500 PSI AGAINST BOTTOM MASTER VALVE. BLEED PRESSURE OFF THRU CHOKE TO 0 PSI. OPENED MASTER VALVE.				
From 12:00 To 20:00	8 hrs	Category/Rmks:	: RIH AND TAGGED CIBP @ 9922'. CORRECTED CTM TO MD. PICKED UP TO 9912' AND CIRCULATED ENTIRE WELL BORE WITH 154 BBLs OF DIESEL. WEIGHTED DIESEL RETURNS 6.9 LBS				
From 20:00 To 22:00	2 hrs	Category/Rmks:	: POOH WITH 1 1/4" COIL TUBING, LD 2" WASH NOZZLE.				
From 22:00 To 2:00	4 hrs	Category/Rmks:	: PUMU BALL ACTIVATED FIRING HEAD AND 2-2 1/8"X 6' TCP, DELAY, 2-2 1/8" X 6' TCP GUNS. RIH TO 9912' CORRECTED TO MD PULLED INTO POSITION DROPPED BALL CIRCULATED DOWN TO FIRING HEAD W/DIESEL MATAINING 300 PSI BACK PRESSURE WITH CHOKE. BALL SEATED, SHUT CHOKE SIDE IN, PERFORATED FROM 9745'-9751'. PULLED INTO POSITION FOR NEXT SHOT WAITED ON GUNS TO FIRE. PERFORATED FROM 9207'-9213'.				
From 2:00 To 5:00	3 hrs	Category/Rmks:	: POOH WITH 1 1/4" COIL TUBING,SHUT WELL IN. LD 2 1/8" TCP, CONFIRMED ALL SHOTS FIRED. BLOWED COIL TUBING REEL DRY.				
From 5:00 To 6:00	1 hrs	Category/Rmks:	: STARTED RDMO CTU AND EQUIPMENT.				
Date :	8/18/2013	Activity:	MONITORING	Rig Name:		Days :	10
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: RDMO CTU & EQUIPMENT. SPOTTED ON SIDE OF LOCATION.				
From 7:00 To 17:00	10 hrs	Category/Rmks:	: WORKED ON THE FACILITES. TIED PRODUCTION TREE INTO FLOWLINE AND TESTED. SITP=0PSI,SICP=0PSI,SISCIP=0PSI,SIICP=0PSI				
Date :	8/19/2013	Activity:	SWABBING	Rig Name:		Days :	11
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=VAC., SICP=0PSI, SISCIP=0PSI, SISCIP=0PSI.				
From 7:00 To 8:00	1 hrs	Category/Rmks:	: MIRU W/O RIG. RU FOR SWAB				
From 8:00 To 12:00	4 hrs	Category/Rmks:	: RIH WITH 2 7/8" SWAB CUPS TAGGED FLUID AT 500'. AFTER 8 RUNS RECOVERING 36 BBLs WELL SWABBED DRY MADE A BACK UP TO ENSURE WELL WAS DRY NO TAG NO				
From 12:00 To 16:30	4.5 hrs	Category/Rmks:	: MADE 5 HOURLY RUNS. WITH NO TAG, NO RECOVERY. SHUT WELL IN				
From 16:30 To 17:30	1 hrs	Category/Rmks:	: RDMO W/O RIG AND EQUIPMENT.				
From 17:30 To 18:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION. SHUT DOWN FOR THE DAY.				
Date :	8/20/2013	Activity:	MONITORING	Rig Name:		Days :	12
Daily Report Summary :							
Daily Report Detail:							

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/21/2013	Activity:	DFIT	Rig Name:		Days :	13
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=VAC., SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 10:00	3 hrs	Category/Rmks:	: MIRU 1 1/4" COIL TUBING UNIT & EQUIPMENT. TESTED PUMP IRON TO 8000 PSI. PUMU CTC, DBPV, WASH NOXXLE. FILLED & TESTED COIL WITH 10 # BRIEN. NU COIL TUBING BOPS TO TOP OF PRODUCTION TREE TESTED TO 4000 PSI. RU HIGH PRESSURE PUMP TRUCK TO COIL TUBING UNIT AND WELL HEAD TESTED IRON TO 6500 PSI.				
From 10:00 To 11:45	.75 hr	Category/Rmks:	: OPENED MASTER VALVE RIH WITH 1 1/4" COIL TUBING TO 8150'. TAGGED UP.				
From 11:45 To 13:45	2 hrs	Category/Rmks:	: MADE SEVERAL ATTEMPTS TO GET PASSED 8150' COULD NOT GET PASSED.				
From 13:45 To 15:30	.75 hr	Category/Rmks:	: POOH WITH 1 1/4" COIL TUBING. UNFLANGED FROM PRODUCTION TREE. LOOKED AT TOOLS AFTER REVIEWING TOOLS. STRIGHTENED THE END OF THE COIL AND TAPPED OVER THE CTC.				
From 15:30 To 18:30	3 hrs	Category/Rmks:	: FLANGED BACK UP TO PRODUCTION TREE RIH WITH 1 1/4" WASH NOZZLE, CTC, DBPV. TO 9932' CORRECTED DEPTH WITH MD POOH TO 9207'. SPOTTED 20 BBLs OF LCA1 MINERAL OIL FROM 9207'-8650'.				
From 18:30 To 22:00	3.5 hrs	Category/Rmks:	: POOH WITH 1 1/4" COIL TUBING. BLOWED COIL TUBING DRY. UNFLANGED FROM PRODUCTION TREE. LD WASH NOZZLE, CTC, DBPV.				
From 22:00 To 23:00	1 hrs	Category/Rmks:	: RU SURFACE PRESSURE GAUGES, BULLHEADED 19 BBLs OF LCA1 MINERAL OIL @ 2BPM @ 5645PSI. ISIP=5454PSI, 5 MIN=5442PSI, 10 MIN= 5436 PSI, 15 MIN 5432 PSI. SHUT WING VALVES. LEAVING WELL OPEN TO SURFACE GAUGES.				
From 23:00 To 23:30	0.5 hrs	Category/Rmks:	: RDMO HIGH PRESSURE PUMP TRUCK, RDMO COIL TUBING UNIT				
From 23:30 To 0:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION SHUT DOWN FOR THE DAY.				
Date :	8/22/2013	Activity:	MONITORING	Rig Name:		Days :	14
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=5273 PSI, SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 18:30	1.5 hr	Category/Rmks:	: MONITORED WELL.				
From 18:30 To 19:30	1 hrs	Category/Rmks:	: HALLIBURTON PULLED DATA FROM SURFACE GAGUES. FORWARDED TO ENGINEERING. ENDING TUBING PRESSURE 5320 PSI.				
Date :	8/23/2013	Activity:	MONITORING	Rig Name:		Days :	15
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=5280 PSI, SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 8:00	1 hrs	Category/Rmks:	: MOVE OUT WORKOVER RIG AND EQUIPMENT, UNLOADED TUBING FROM PIPE RACKS PUT ON PALLETS.				
From 8:00 To 10:00	2 hrs	Category/Rmks:	: MOVE OUT WORKOVER RIG AND EQUIPMENT, UNLOADED TUBING FROM PIPE RACKS PUT ON PALLETS.				
From 10:00 To 18:30	3.5 hrs	Category/Rmks:	: MONITORED WELL. ENDING TUBING PRESSURE 5251 PSI.				

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/24/2013	Activity:	SWABBING	Rig Name:		Days :	16
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=5230 PSI, SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 8:00	1 hrs	Category/Rmks:	: REMOVED GAUGES FROM WELL HEAD. SENT DATA TO ENGINEERING. BLEED TUBING DOWN TO PRODUCTION TANKS TO 0 PSI.				
From 8:00 To 9:00	1 hrs	Category/Rmks:	: MIRU SWAB RIG.				
From 8:00 To 9:00	1 hrs	Category/Rmks:	: MIRU SWAB RIG.				
From 9:00 To 9:15	0.25 hr	Category/Rmks:	: PU RIH WITH 2 7/8" SWAB CUPS TAGGED FLUID AT SURFACE PULLED FROM 1000' POOH RECOVERING 5.5 BBLS				
From 9:15 To 13:00	3.75 hr	Category/Rmks:	: MADE 7 RUNS RECOVERING 33.5 BBLS. WELL SWABBED DRY. CONFIRMED WITH RUN # 9 PULLING FROM 6750'				
From 13:00 To 14:00	1 hrs	Category/Rmks:	: WAITED FOR 1 HOUR				
From 14:00 To 14:30	0.5 hrs	Category/Rmks:	: RIH WITH 2 7/8" SWAB CUPS. NO TAG PULLED FROM 6750' NO RECOVERY				
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY. MADE A TOTAL OF 10 RUNS RECOVERING 39 BBLS				

Date :	8/25/2013	Activity:	SWABBING	Rig Name:		Days :	17
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=VAC , SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 8:00	1 hrs	Category/Rmks:	: OPENED WELL. RIH WITH 2 7/8" SWAB CUPS. NO FLUID TAG PULLED FROM 6750'. POOH NO RECOVERY				
From 8:00 To 8:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. RDMO SWAB RIG.				
From 8:30 To 9:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION. SHUT DOWN FOR THE DAY.				

Date :	8/26/2013	Activity:	shutdown	Rig Name:		Days :	18
Daily Report Summary :							
Daily Report Detail:							
From 6:00 To 7:00	1 hrs	Category/Rmks:	: CHECKED WELL HEAD PRESSURE. SITP=0PSI , SICP=0PSI, SISCP=0PSI, SISCP=0PSI				
From 7:00 To 18:00	11 hrs	Category/Rmks:	: MONITERED WELL.				

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPSCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/27/2013	Activity:	PERF	Rig Name:		Days :	19
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0PSI , SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 12:00	5 hrs	Category/Rmks:	: MIRU 1 1/4" PUMU CTU AND N2/FLUID PUMP COMBOUNIT. FILLED CT WITH 10# BRIEN. PUMU CTC PULL TESTED TO 10,000. NU 2 9/16" X 10K FLANGE TO SWAB VALVE. TESTED PRODUCTION TREE AND COIL TO 6500 PSI. DISPLACED BRIEN WITH DIESEL TO PRODUCTION TANKS.				
From 12:00 To 13:00	1 hrs	Category/Rmks:	: HSM. PUMU BALL ACTIVATED FIRING HEAD AND 10'- 2 1/8" TCP GUN 12 MIN DELAY 6'- 2 1/8" TCP GUN NBU TO SWAB VALVE.				
From 13:00 To 16:00	3 hrs	Category/Rmks:	: RIH TO 9930' CIBP TAGGED AND CORECTED DEPTH TO MD, PULLED INTO POSITION FOR 4TH INTERVAL PERFORATIONS. PUMPED 10 BBLs OF DEISEL DROPPED BALL AND CIRCULATED DOWN TO FIRING HEAD W/DIESEL.HOLDING 300 PSI ON CASING. BALL SEATED SHUT CASING. ATTEMPTED TO PERFORATE FROM 8955'-8965'. PULLED INTO POSITION FOR 5TH INTERVAL TO PERFORATE. ATTEMPTED TO PERFORATE FROM 8686'-8692' NO INDICATION OF PRESSURE INCREASE.				
From 16:00 To 18:00	2 hrs	Category/Rmks:	: POOH GUNS DID NOT FIRE. AFTER REVIEWING THE FIRING HEAD HAD FAILED.				
From 18:00 To 19:00	1 hrs	Category/Rmks:	: PUMU NEW BALL ACTIVATED FIRING HEAD AND 10'- 2 1/8" TCP GUN 12 MIN DELAY 6'- 2 1/8" TCP GUN NBU TO SWAB VALVE.				
From 19:00 To 21:00	2 hrs	Category/Rmks:	: RIH TO MD POSITIONED FOR 4TH INTERVAL PERFORATIONS. DROPPED BALL AND CIRCULATED DOWN TO THE FIRING HEAD W/DIESEL.HOLDING 300 PSI ON CASING. BALL SEATED SHUT CASING IN. SEEING A 700 PSI PRESSURE INCREASE ON THE CASING. PERFORATED FROM 8955'-8965'. PULLED INTO POSITION FOR 5TH INTERVAL PERFORATIONS. PERFORATED FROM 8686'-8692' NO INDICATION OF PRESSURE INCREASE.				
From 21:00 To 22:30	1.5 hrs	Category/Rmks:	: POOH WITH 1 1/4" COIL TUBING SHUT WELL IN. CONFIRMED ALL SHOTS FIRED. LD 6'-2 1/8" TCP GUN, DELAY, 10'-2 1/8" TCP GUN, BALL DROP FIRING HEAD.				
From 22:30 To 23:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION. SHUT DOWN FOR THE DAY.				
Date :	8/28/2013	Activity:	PERF	Rig Name:		Days :	20
Daily Report Summary :							
Daily Report Detail:							
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0PSI , SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 7:00 To 12:00	5 hrs	Category/Rmks:	: WAITED ON FIRING HEAD TO ARRIVE.				
From 12:00 To 13:00	1 hrs	Category/Rmks:	: HSM. PUMU BALL ACTIVATED FIRING HEAD, 6'-2 1/8" TCP GUN, 12 MIN DELAY, 10'-2 1/8" TCP GUN. NU TO SWAB VALVE.				
From 13:00 To 15:30	2.5 hrs	Category/Rmks:	: RIH TO MD POSITIONED FOR 5TH INTERVAL PERFORATIONS. DROPPED BALL AND CIRCULATED DOWN TO THE FIRING HEAD W/DIESEL. BALL SEATED SHUT CASING IN. SEEING NO PRESSURE INCREASE ON THE CASING. WOULD NOT CIRCULATE. PRESSURE UP TO 7800 PSI. PERFORATED FROM 8503'-8509'. PULLED INTO POSITION FOR 6TH INTERVAL PERFORATIONS. PERFORATED FROM 8257'-8267' NO INDICATION OF PRESSURE INCREASE.				
From 15:30 To 17:00	1.5 hrs	Category/Rmks:	: POOH SHUT WELL IN. UNFLANGED FROM BOPS. CONFIRMED ALL SHOTS FIRED. LD 10'-2 1/8" TCP GUN, DELAY, 6'-2 1/8" TCP GUN,DBPV,CTC				
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: ND COIL BOPS FROM SWAB VALVE. RD CTU TO SIDE OF LOCATION.				
From 17:30 To 18:30	1 hrs	Category/Rmks:	: SECURED LOCATION. SHUT DOWN FOR THE DAY.				

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/29/2013	Activity:	CIRCULATE HOLE	Rig Name:		Days :	21
Daily Report Summary :							
Daily Report Detail:							
From 6:00 To 6:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0PSI , SICP=2350PSI, SISCP=0PSI, SISCP=0PSI.				
From 6:30 To 7:00	0.5 hrs	Category/Rmks:	: MIRU SWAB RIG.				
From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: RU 2 7/8" SWAB CUPS. RIH TAGGED FLUID AT 400' PULLED FROM 1400'. RECOVERING 5.5 BBLS .				
From 7:30 To 12:00	4.5 hrs	Category/Rmks:	: MADE 7 RUNS RECOVERING 31 BBLS. WELL SWABBED DOWN TO 6700'. MADE A BACK UP RUN TO CONFIRM.				
From 12:00 To 12:30	0.5 hrs	Category/Rmks:	: RDMO SWAB UNIT.				
From 12:30 To 13:00	0.5 hrs	Category/Rmks:	: HSM. MIRU COIL TUBING UNIT. PUMU CTC PULL TESTED TO 10K, DBPV,2" WASH NOZZLE.				
From 13:00 To 14:30	1.5 hrs	Category/Rmks:	: FILLED COIL WITH 10# BRIEN TESTED PRODUCTION TREE TO 6500 PSI. BLOWED COIL DRY W/N2 TO PRODUCTION TANKS.				
From 14:30 To 18:00	3.5 hrs	Category/Rmks:	: RIH WITH 1 1/4" CT TO 9250' BLOWING WELL DRY WITH N2. RECOVERING 90 BBLS.				
From 18:00 To 20:00	2 hrs	Category/Rmks:	: POOH W/1 1/4" CT, SHUT WELL IN . ND 2 9/16" FLANGE FROM SWAB VALVE. LD WASH NOZZLE,DBPV,CTC.				
From 20:00 To 21:30	1.5 hrs	Category/Rmks:	: RDMO CTU. BLEED CASING DOWN TO 500 PSI.				
From 21:30 To 22:00	0.5 hrs	Category/Rmks:	: SECURED LOCATION. SHUT DOWN FOR THE DAY.				
Date :	8/30/2013	Activity:	ACID	Rig Name:		Days :	22
Daily Report Summary :							
Daily Report Detail:							
From 8:00 To 8:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=50 PSI , SICP=0PSI, SISCP=0PSI, SISCP=0PSI.				
From 8:30 To 10:00	1.5 hrs	Category/Rmks:	: MIRU HIGH PRESSURE PUMP & EQUIPMENT.				
From 10:00 To 11:00	1 hrs	Category/Rmks:	: LOADED PUMP IRON WITH 10 # BRIEN TESTED IRON AND PRODUCTION TREE TO 8500 PSI. FLUSHED PUMP LINES WITH LCA1 TO PRODUCTION TANKS. INCREASED CASING TO 500 PSI.				
From 11:00 To 12:00	1 hrs	Category/Rmks:	: PUMPED 10 BBLS OF LCA1 DOWN TUBING @ 5 BPM @ 10 PSI, 4000 GALS OF HCL ACID NON-EMULISFER,2x TIMES THE IRON CONTROL. 50 BBLS OF LCA1,WITH 75 BBLS OF 10# BRIEN FOR FLUSH. ISIP=4143 PSI,5 MIN=4142 PSI,10=MIN 4139 PSI,15 MIN=4139 PSI. ,MTP=6258PSI, AVG TREATING PRESSURE 5500 PSI. AVG. PUMP RATE 4.5 BPM				
From 12:00 To 14:00	2 hrs	Category/Rmks:	: SHUT WELL IN. RDMO HIGH PRESSURE PUMP TRUCK AND EQUIPMENT. MIRU SWAB UNIT. SHUT DOWN FOR 2 HOURS				
From 14:00 To 14:30	0.5 hrs	Category/Rmks:	: SICP=580 PSI. SITP=4139 PSI. SIICP=0PSI. SISCP=0PSI. OPEND TUBING TO PRODUCTION TANK ON A 24/64 CKOKE. WELL FLOWED BACK 30 MINS RECOVERING 23.5 BBLS.				
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: PU 2 7/8" SWAB CUPS TAGGED FLUID AT SURFACE PULLED FROM 1000' RECOVERING 6 BBLS.				
From 15:00 To 19:00	4 hrs	Category/Rmks:	: MADE A TOTAL OF 9 RUNS RECOVERING 39 BBLS ENDING FLUID LEVEL 6700'.				
From 19:00 To 19:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY. TOTAL BBLS RECOVERED (SWABBED 39 BBLS) (FLOWED 23.5BBLS.) (TOTAL=62.5 BBLS.)				



Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPSCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Date :	8/31/2013	Activity:	SWABBING	Rig Name:		Days :	23
Daily Report Summary :							
Daily Report Detail:							
From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP= 20 PSI , SICP=600 PSI, SISCP=0PSI, SICP=0PSI.				
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: OPENED TUBING TO PRODUCTION TANK. PU RIH WITH 2-2 7/8" SWAB CUPS TAGGED FLUID AT 5100' PULLED FROM 6200'. RECOVERING 6 BBLS. (COULD NOT GET PASSED 6200')				
From 8:00 To 11:00	3 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" SWAB CUPS TAGGED FLUID AT 6000' COULD NOT GET PASSED RUBBER. POOH RECOVERING SWAB CUP RUBBER & OTHER RUBBER IN THE MANDERL. RIH WITH 1-2 7/8" SWAB CUP COULD NOT GET PASSED 6000'. POOH CUT ONE RING OFF OF SWAB CUP. RIH WITH ONE RING OFF OF A 2 7/8" SWAB CUPS WAS ABLE TO WORK PASSED AND GET TO 6700'. POOH RECOVERING RUBBER IN THE SWAB CUP RING.				
From 11:00 To 12:00	1 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" SWAB CUPS TAGGED FLUID AT 6000' HAD TO WORK DOWN TO 6700'. PULLED OUT OF THE HOLE RECOVERING 3 BBLS.				
From 12:00 To 13:00	1 hrs	Category/Rmks:	: MADE A TOTAL OF 3 SWAB RUNS RECOVERING 9.75 BBLS. WELL SWABBED DRY. MADE RUN # 4 TO CONFIRM.				
From 13:00 To 14:00	1 hrs	Category/Rmks:	: SHUT DOWN FOR 1 HOUR LEAVING TUBING OPEN TO PRODUCTION TANK.				
From 14:00 To 14:30	0.5 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" SWAB CUPS, NO FLUID TAG PULLED FROM 6700' NO RECOVERY				
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: SHUT DOWN FOR 1 HOUR LEAVING TUBING OPEN TO PRODUCTION TANK.				
From 15:00 To 16:00	1 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" SWAB CUPS, NO FLUID TAG PULLED FROM 6700' NO RECOVERY				
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. RDMO SWAB UNIT. SECURED LOCATION. SHUT DOWN FOR THE DAY.				

Date :	9/1/2013	Activity:	SHUT IN	Rig Name:		Days :	24
Daily Report Summary :							
Daily Report Detail:							
Date :	9/2/2013	Activity:	SHUT IN	Rig Name:		Days :	25
Daily Report Summary :							
Daily Report Detail:							
Date :	9/3/2013	Activity:	SHUT IN	Rig Name:		Days :	26
Daily Report Summary :							
Daily Report Detail:							

Casing									
DateIn	Setting Depth	Jts Run	Type	Size	Weight	Grade	MINID	HoleDiam	TD
6/17/2013	1800	43	3. Surface	13.375	54.5	J-55	0	17.5	1802
Stage: 1, Spacer, 10, 0, Fresh Water, , 0, 0									
Stage: 1, Spacer, 20, 0, Super flush 101, , 0, 0									
Stage: 1, Spacer, 10, 0, Fresh Water, , 0, 0									
Stage: 1, Lead, 0, 675, Poly E-Flake .25%, Varicem, 2.4, 12									
Stage: 1, Tail, 0, 405, Poly E-Flake .25%, Varicem, 1.85, 13									
Stage: 1, Displacement, 272, 0, Fresh Water, , 0, 0									
Stage: 1, Top Out, 9.25, 0, G cement, , 0, 0									
6/28/2013	5442	137	4. Intermediate	9.625	40	HCP - 110	0	12.25	5442
Stage: 1, Spacer, 40, 0, Mud Flush III, , 0, 0									
Stage: 1, Lead, 0, 1100, , Type I/II, 2.98, 11.5									
Stage: 1, Tail, 0, 750, , Poz Mix, 1.25, 14.4									
Stage: 1, Displacement, 409, 0, Fresh Water, , 0, 0									
7/26/2013	10043	236	5. Production	7	32	P-110	0	8.5	10104
Stage: 1, Spacer, 40, 0, Tuned Spacer III, , 0, 0									
Stage: 1, Spacer, 105, 0, TergoVis, , 0, 0									

Well Name : Sepco State 30-23 #1-16							
Prospect:		Paradox			AFE #:		1002307
Sec/Twp/Rge:		16 / 30N / 23E			Operator:		SEPCO
API #:		43037500400000	Field:		N/A		Supervisor:
Work Type:		Completion		County , St.:		San Juan, UT	
Phone:							
Production Current/Expected		Oil:	0 / 0		Gas:	0 / 0	
Water:		0 / 0					

Stage: 1, Tail, 0, 425, , PozMix, 1.17, 15
Stage: 1, Displacement, 288, 0, Bring Water, , 0, 0

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>1. TYPE OF WELL</b> Oil Well		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>9. API NUMBER:</b> 43037500400000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
		<b>COUNTY:</b> SAN JUAN
		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>11/1/2013</b>	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input checked="" type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input type="text"/>
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:			
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:			
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

We will be plugging back Clastic intervals #19 & 9 before moving on to the Gothic formation to test. Our plug back will consist of a CIBP & 100' of cement on top for each of the previously mentioned intervals. We will then perforate and test the Gothic formation. Our testing will consist of a DFIT, Fracture Stimulation, and Pump Testing. Please see the attachment for fracture treatment details.

**Approved by the  
 Utah Division of  
 Oil, Gas and Mining**

**Date:** October 30, 2013

**By:** *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A		<b>DATE</b> 10/25/2013



# HALLIBURTON

Southwestern Energy Prod Co Ebus  
2350 N Sam Houston-do Not Mail  
Houston, Texas 77032

SEPCO State 30-23 1-16H

San Juan County, Utah  
United States of America  
S:16 T:30S R:23E  
API/UWI 43-037-50040

## 25# Water Frac CMHPG

Prepared for: Kelly Kerr  
Office Number: 2816187853  
Email Address: Kelly\_Kerr@SWN.com

October 11, 2013  
Version: 1

Submitted by:  
Ryan Nunnally  
Halliburton  
1125 17th St. Suite 1900  
Denver, Colorado 80202  
+13038994720



HALLIBURTON

**HALLIBURTON**

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***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

***Foreword***

---

Enclosed is our recommended procedure for fracturing the formation in the referenced well. The information in this proposal includes well data, calculations, material requirements, and cost estimates. This proposal is based on information from our field personnel and previous stimulation services in the area. Halliburton appreciates the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representatives listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Ryan Nunnelly  
Technical Advisor

SERVICE CENTER:

Grand Junction

SERVICE COORDINATOR:

Steve Teske

OPER. ENGINEER:

Russell Stimatze

PHONE NUMBER:

+19705233829

**HALLIBURTON**

---

***Well Information***

***SEPCO State 30-23 #1-16H***

Well Name: SEPCO State 30-23      Well #: 1-16H

**Tubulars**

Name	Measured Depth (ft)	Outer Diameter (in)	Inner Diameter (in)	Grade
2 7/8" Tubing VERIFY!	0 - 10040	2.875	6.094	P-110

**Perforations**

Interval Name/ Depth (ft)
Perforation Interval / 5200 - 5200

**HALLIBURTON****Job Fluids Summary****SEPCO State 30-23 #1-16H**

<b>25# Water Frac CMHPG</b>							
Volume	Base Fluid	Additive Material	Additive Material	Additive Material	Additive Material	Additive Material	Additive Material
<b>18500 (Gal)</b>	Fresh Water*	WG-18	Vicon NF	CLA-Web	BE-7	FDP-S1084-13	SP Breaker
<b>Totals</b>	18500 (Gal)	462.5 (lbm)	10.5 (Gal)	4.62 (Gal)	5.55 (Gal)	18.5 (Gal)	11 (lbm)

<b>FR-66 Water</b>						
Volume	Base Fluid	Friction Reducer	Additive Material	Additive Material	Additive Material	Additive Material
<b>2300 (Gal)</b>	Fresh Water*	FR-66	Optikleen-WF	BE-7	CLA-Web	FDP-S1084-13
<b>Totals</b>	2300 (Gal)	1.15 (Gal)	1.15 (lbm)	0.69 (Gal)	0.57 (Gal)	2.3 (Gal)

<b>JOB TOTALS</b>									
Volume (Gal)	Base Fluid (Gal)	Additive Material (lbm)	Additive Material (Gal)	Additive Material (Gal)	Additive Material (Gal)	Additive Material (Gal)	Additive Material (lbm)	Friction Reducer (Gal)	Additive Material (lbm)
	Fresh Water*	WG-18	Vicon NF	CLA-Web	BE-7	FDP-S1084-13	SP Breaker	FR-66	Optikleen-WF
	20800	462.5	10.5	5.19	6.24	20.8	11	1.15	1.15

<b>Proppant</b>		
	<b>Designed Qty</b>	<b>Requested</b>
<b>Premium White-20/40</b>	6750 (lbm)	6750 (lbm)
<b>Premium White-40/70</b>	2500 (lbm)	2500 (lbm)

<b>Customer Supplied Items *</b>			
	<b>Designed Qty</b>	<b>Tank Bottom</b>	<b>Requested w/ Tank Bottom</b>
Fresh Water	20800 Gal	0 Gal	20800 Gal

**HALLIBURTON****Treatment 1****SEPCO State 30-23 #1-16H**

Well Name	SEPCO State 30-23	FR-66 Water	2300 Gal
Job Name	SEPCO State 30-23 #1-16H	25# Water Frac CMHPG	18500 Gal
Estimated Pump Time	0.61 hrs	Premium White-40/70	2500 lbm
BHST	150 degF	Premium White-20/40	6750 lbm

Casing (Surface)								
Trt-Stage	Stage Desc.	Flow Path	Fluid Desc.	Rate-Liq+Prop	Clean Vol.	Proppant	Proppant Conc.	Prop. Mass
1-1	Breakdown	IN	FR-66 Water	5	1000		0	0
1-2	Pad	IN	25# Water Frac CMHPG	15	5500		0	0
1-3	Proppant Laden Fluid	IN	25# Water Frac CMHPG	15	5000	Premium White-40/70	0.5	2500
1-4	Proppant Laden Fluid	IN	25# Water Frac CMHPG	15	5000	Premium White-20/40	0.75	3750
1-5	Proppant Laden Fluid	IN	25# Water Frac CMHPG	15	3000	Premium White-20/40	1	3000
1-6	Flush	IN	FR-66 Water	15	1300		0	0
<b>Totals</b>					<b>20800</b>			<b>9250</b>

**HALLIBURTON****Fluid Details - Treatment 1****SEPCO State 30-23 #1-16H**

<b>FR-66 Water</b>						
Volume (Gal)	Base Fluid	Friction Reducer (gal/Mgal)	Additive Material (lbm/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)
	Fresh Water *	FR-66	Optikleen-WF	BE-7	CLA-Web	FDP-S1084-13
2300	0 - 2300	0.5	0.5	0.3	0.25	1

<b>25# Water Frac CMHPG</b>							
Volume (Gal)	Base Fluid	Additive Material (lbm/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (lbm/Mgal)
	Fresh Water *	WG-18	Vicon NF	CLA-Web	BE-7	FDP-S1084-13	SP Breaker
	0 - 10500	25	1	0.25	0.3	1	0
	10500 - 15500	25	0	0.25	0.3	1	1
18500	15500 - 18500	25	0	0.25	0.3	1	2

\* Customer Supplied

**HALLIBURTON**

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## ***Conditions***

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### **NOTE**

The cost in this analysis is good for the materials and/or services outlined within and shall be valid for 30 days from the date of this proposal. In order to meet your needs under this proposal with a high quality of service and responsive timing, Halliburton will be allocating limited resources and committing valuable equipment and materials to your area of operations.

Accordingly, the discounts reflected in this proposal are available only for materials and services awarded on a first-call basis. Alternate pricing may apply in the event that Halliburton is awarded work on any basis other than as a first-call provider.

The unit prices stated in the proposal are based on our current published prices. The projected equipment, personnel, and material needs are only estimates based on information about the work presently available to us. At the time the work is actually performed, conditions then existing may require an increase or decrease in the equipment, personnel, and/or material needs. Charges will be based upon unit prices in effect at the time the work is performed and the amount of equipment, personnel, and/or material actually utilized in the work. Taxes, if any, are not included. Applicable taxes, if any, will be added to the actual invoice.

It is understood and agreed between the parties that with the exception of the subject discounts, all services performed and equipment and materials sold are provided subject to Halliburton's General Terms and Conditions contained in our current price list, (which include LIMITATION OF LIABILITY and WARRANTY provisions), and pursuant to the applicable Halliburton Work Order Contract (whether or not executed by you), unless a Master Service and/or Sales Contract applicable to the services, equipment, or materials supplied exists between your company and Halliburton, in which case the negotiated Master Contract shall govern the relationship between the parties. A copy of the latest version of our General Terms and Conditions is available from your Halliburton representative or at:

<http://www.halliburton.com/terms> for your convenient review, and we would appreciate receiving any questions you may have about them. Should your company be interested in negotiating a Master Contract with Halliburton, our Law Department would be pleased to work with you to finalize a mutually agreeable contract. In this connection, it is also understood and agreed that Customer will continue to execute Halliburton usual field work orders and/or tickets customarily required by Halliburton in connection with the furnishing of said services, equipment, and materials.

Any terms and conditions contained in purchase orders or other documents issued by the customer shall be of no effect except to confirm the type and quantity of services, equipment, and materials to be supplied to the customer.

If customer does not have an approved open account with Halliburton or a mutually executed written contract with Halliburton, which dictates payment terms different than those set forth in this clause, all sums due are payable in cash at the time of performance of services or delivery of equipment, products, or materials. If customer has an approved open account, invoices are payable on the twentieth day after date of invoice.

Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

RECEIVED: Oct. 25, 2013



# HALLIBURTON

Southwestern Energy Prod Co Ebus  
2350 N Sam Houston-do Not Mail  
Houston, Texas 77032

SEPCO State 30-23 1-16H

San Juan County, Utah  
United States of America  
S:16 T:30S R:23E  
API/UWI 43-037-50040

## 25# pHaserFrac

Prepared for: Kelly Kerr  
Office Number: 2816187853  
Email Address: Kelly\_Kerr@SWN.com

October 11, 2013  
Version: 2

Submitted by:  
Ryan Nunnelly  
Halliburton  
1125 17th St. Suite 1900  
Denver, Colorado 80202  
+13038994720



HALLIBURTON

**HALLIBURTON**

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***Halliburton appreciates the opportunity to present  
this proposal and looks forward to being of service to you.***

***Foreword***

---

Enclosed is our recommended procedure for fracturing the formation in the referenced well. The information in this proposal includes well data, calculations, material requirements, and cost estimates. This proposal is based on information from our field personnel and previous stimulation services in the area. Halliburton appreciates the opportunity to present this proposal for your consideration and we look forward to being of service to you. Our Services for your well will be coordinated through the Service Center listed below. If you require any additional information or additional designs, please feel free to contact myself or our field representatives listed below.

Prepared and Submitted by:

\_\_\_\_\_  
Ryan Nunnelly  
Technical Advisor

SERVICE CENTER:

Grand Junction

SERVICE COORDINATOR:

Steve Teske

OPER. ENGINEER:

Russell Stimatze

PHONE NUMBER:

+19705233829

**HALLIBURTON**

---

**Well Information**

**SEPCO State 30-23 #1-16H**

Well Name: SEPCO State 30-23      Well #: 1-16H

**Tubulars**

Name	Measured Depth (ft)	Outer Diameter (in)	Inner Diameter (in)	Grade
2 7/8" Tubing VERIFY!	0 - 10040	2.875	6.094	P-110

**Perforations**

Interval Name/ Depth (ft)
Perforation Interval / 5200 - 5200

**HALLIBURTON****Job Fluids Summary****SEPCO State 30-23 #1-16H**

<b>FR-66 Water</b>						
Volume	Base Fluid	Friction Reducer	Additive Material	Additive Material	Additive Material	Additive Material
<b>2300 (Gal)</b>	Fresh Water*	FR-66	Optikleen-WF	BE-7	CLA-Web	FDP-S1084-13
<b>Totals</b>	2300 (Gal)	1.15 (Gal)	1.15 (lbm)	0.69 (Gal)	0.57 (Gal)	2.3 (Gal)

<b>25# pHaserFrac</b>									
Volume	Base Fluid	Gelling Agent	Crosslinker	Buffer	Additive Material	Additive Material	Additive Material	Additive Material	Additive Material
<b>38000 (Gal)</b>	Fresh Water*	WG-18	CL-23	BA-20	FDP-S1084-13	CLA-Web	Vicon NF	CAT-3	BE-7
<b>Totals</b>	38000 (Gal)	950 (lbm)	19 (Gal)	38 (Gal)	38 (Gal)	19 (Gal)	114 (Gal)	3.8 (Gal)	11.4 (Gal)

<b>JOB TOTALS</b>						
Volume (Gal)	Base Fluid (Gal)	Friction Reducer (Gal)	Additive Material (lbm)	Additive Material (Gal)	Additive Material (Gal)	Additive Material (Gal)
	Fresh Water*	FR-66	Optikleen-WF	BE-7	CLA-Web	FDP-S1084-13
	40300	1.15	1.15	12.09	19.57	40.3
	Gelling Agent	Crosslinker	Buffer	Additive Material (Gal)	Additive Material (Gal)	
	(lbm)	(Gal)	(Gal)	(Gal)	(Gal)	
	WG-18	CL-23	BA-20	Vicon NF	CAT-3	
	950	19	38	114	3.8	

<b>Proppant</b>		
	<b>Designed Qty</b>	<b>Requested</b>
<b>Premium White-20/40</b>	12000 (lbm)	12000 (lbm)
<b>Premium White-40/70</b>	5000 (lbm)	5000 (lbm)

<b>Customer Supplied Items *</b>			
	<b>Designed Qty</b>	<b>Tank Bottom</b>	<b>Requested w/ Tank Bottom</b>
Fresh Water	40300 Gal	0 Gal	40300 Gal

**HALLIBURTON****Treatment 1****SEPCO State 30-23 #1-16H**

Well Name	SEPCO State 30-23	FR-66 Water	2300 Gal
Job Name	SEPCO State 30-23 #1-16H	25# pHaserFrac	38000 Gal
Estimated Pump Time	1.14 hrs	Premium White-40/70	5000 lbm
BHST	150 degF	Premium White-20/40	12000 lbm

Casing (Surface)								
Trt-Stage	Stage Desc.	Flow Path	Fluid Desc.	Rate-Liq+Prop	Clean Vol.	Proppant	Proppant Conc.	Prop. Mass
1-1	Breakdown	IN	FR-66 Water	5	1000		0	0
1-2	Pad	IN	25# pHaserFrac	15	14000		0	0
1-3	Proppant Laden Fluid	IN	25# pHaserFrac	15	10000	Premium White-40/70	0.5	5000
1-4	Proppant Laden Fluid	IN	25# pHaserFrac	15	8000	Premium White-20/40	0.75	6000
1-5	Proppant Laden Fluid	IN	25# pHaserFrac	15	6000	Premium White-20/40	1	6000
1-6	Flush	IN	FR-66 Water	15	1300		0	0
<b>Totals</b>					<b>40300</b>			<b>17000</b>

**HALLIBURTON****Fluid Details - Treatment 1****SEPCO State 30-23 #1-16H**

<b>FR-66 Water</b>						
Volume (Gal)	Base Fluid	Friction Reducer (gal/Mgal)	Additive Material (lbm/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)
	Fresh Water *	FR-66	Optikleen-WF	BE-7	CLA-Web	FDP-S1084-13
2300	0 - 2300	0.5	0.5	0.3	0.25	1

<b>25# pHaserFrac</b>									
Volume (Gal)	Base Fluid	Gelling Agent (lbm/Mgal)	Crosslinker (gal/Mgal)	Buffer (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)	Additive Material (gal/Mgal)
	Fresh Water *	WG-18	CL-23	BA-20	FDP-S1084-13	CLA-Web	Vicon NF	CAT-3	BE-7
38000	0 - 38000	25	0.5	1	1	0.5	3	0.1	0.3

\* Customer Supplied

**HALLIBURTON**

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## ***Conditions***

---

### **NOTE**

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RECEIVED: Oct. 25, 2013

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH

11.

CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA


TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>12/16/2013</b>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"><input type="checkbox"/> ACIDIZE</div> <div style="width: 33%;"><input type="checkbox"/> ALTER CASING</div> <div style="width: 33%;"><input type="checkbox"/> CASING REPAIR</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE TUBING</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL NAME</div> <div style="width: 33%;"><input type="checkbox"/> CHANGE WELL STATUS</div> <div style="width: 33%;"><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</div> <div style="width: 33%;"><input type="checkbox"/> CONVERT WELL TYPE</div> <div style="width: 33%;"><input type="checkbox"/> DEEPEN</div> <div style="width: 33%;"><input type="checkbox"/> FRACTURE TREAT</div> <div style="width: 33%;"><input type="checkbox"/> NEW CONSTRUCTION</div> <div style="width: 33%;"><input type="checkbox"/> OPERATOR CHANGE</div> <div style="width: 33%;"><input checked="" type="checkbox"/> PLUG AND ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> PLUG BACK</div> <div style="width: 33%;"><input type="checkbox"/> PRODUCTION START OR RESUME</div> <div style="width: 33%;"><input type="checkbox"/> RECLAMATION OF WELL SITE</div> <div style="width: 33%;"><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> REPERFORATE CURRENT FORMATION</div> <div style="width: 33%;"><input type="checkbox"/> SIDETRACK TO REPAIR WELL</div> <div style="width: 33%;"><input type="checkbox"/> TEMPORARY ABANDON</div> <div style="width: 33%;"><input type="checkbox"/> TUBING REPAIR</div> <div style="width: 33%;"><input type="checkbox"/> VENT OR FLARE</div> <div style="width: 33%;"><input type="checkbox"/> WATER DISPOSAL</div> <div style="width: 33%;"><input type="checkbox"/> WATER SHUTOFF</div> <div style="width: 33%;"><input type="checkbox"/> SI TA STATUS EXTENSION</div> <div style="width: 33%;"><input type="checkbox"/> APD EXTENSION</div> <div style="width: 33%;"><input type="checkbox"/> WILDCAT WELL DETERMINATION</div> <div style="width: 33%;"><input type="checkbox"/> OTHER</div> </div>
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	
OTHER: <input style="width: 100%;" type="text"/>	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please see the attached procedure to plug and abandon.

 Approved by the  
 Utah Division of  
 Oil, Gas and Mining

 Date: December 16, 2013

 By: 

<b>NAME (PLEASE PRINT)</b> Amy Johnson	<b>PHONE NUMBER</b> 281 618-7414	<b>TITLE</b> Regulatory Supervisor
<b>SIGNATURE</b> N/A	<b>DATE</b> 12/10/2013	





**The Utah Division of Oil, Gas, and Mining**

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

**Sundry Conditions of Approval Well Number 43037500400000**

- 1. Notify the Division at least 24 hours prior to conducting abandonment operations. Please call Dan Jarvis at 801-538-5338.**
- 2. Amend Plug # 1: Tag previously set plug (TOC est. @ 5859') prior to proceeding with Plug #1 in proposal.**
- 3. Add Plug # 3: A 100' cement plug shall be spotted inside and out from 800' to 700' ( $\pm$  32 sx) to isolate the fresh water wells in the area (to 400' in the Navajo Fm) and the potential mineral bearing zones in the Chinle Fm as required by R649-3-24-3.3.**
- 4. All balanced plugs shall be tagged to ensure that they are at the depth specified.**
- 5. All annuli shall be cemented from a minimum depth of 100' to the surface.**
- 6. Surface reclamation shall be done in accordance with R649-3-34 – Well Site Restoration.**
- 7. All requirements in the Oil and Gas Conservation General Rule R649-3-24 shall apply.**
- 8. If there are any changes to the procedure or the wellbore configuration, notify Dustin Doucet at 801-538-5281 (ofc) or 801-733-0983 (home) prior to continuing with the procedure.**
- 9. All other requirements for notice and reporting in the Oil and Gas Conservation General Rules shall apply.**

12/16/2013

## Wellbore Diagram

r263

API Well No: 43-037-50040-00-00

Permit No:

Well Name/No: SEPCO STATE 30-23 #1-16H

Company Name: SOUTHWESTERN ENERGY PRODUCTION COMPANY

Location: Sec: 16 T: 30S R: 23E Spot: SESE

Coordinates: X: 640508 Y: 4226197

Field Name: WILDCAT

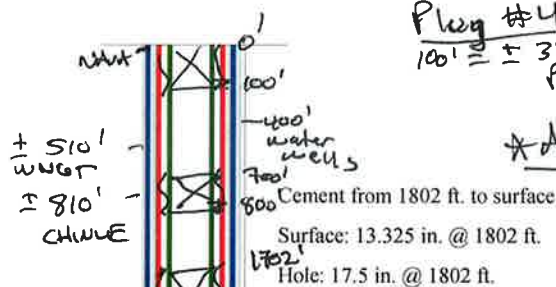
County Name: SAN JUAN

## String Information

String	Bottom (ft sub)	Diameter (inches)	Weight (lb/ft)	Length (ft)	Capacity (G/CF)
HOL1	1802	17.5			
SURF	1802	13.325	54.5		
HOL2	5442	12.25			
II	5442	9.625	40		
HOL3	10105	8.5			
PROD	10043	7	32		4.937
CIBP	7350	7			

Plug #4  
 $100' \div 32 \times \text{Propose } 305 \times$   
 ✓

\* Add Plug #3  
 $9 \frac{5}{8} \times 7"$



100' inside but plug isolating possible min. bearing fun (hunk) & Water Zones, 800' - 700'  
 Pert @ 800'  
 $\text{IN } 100' / (1.15) (4.937) = 185 \times$   
 $\text{OUT } 100' / (1.15) (6.310) = 145 \times$   
 $32 \times \text{ req. min.}$

Plug #2

$\text{IN } 200' / (1.15) (4.937) = 355 \times$   
 $\text{OUT } 200' / (1.15) (6.310) = 285 \times$

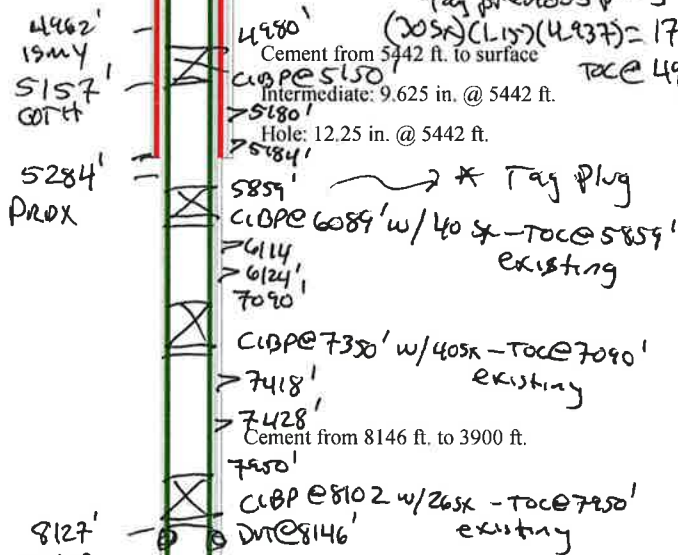
## Cement Information

String	BOC (ft sub)	TOC (ft sub)	Class	Sacks
II	5442	0	TI	1100
II	5442	0	PC	750
PROD	8146	3900		
SURF	1802	0	UK	675
SURF	1802	0	HG	405
SURF	1802	0	G	45

Propose 655x  
 ✓

\* Plug #1

Tag previous plug  
 $(305 \times) (1.15) (4.937) = 170'$   
 Cement from 5442 ft. to surface  
 Intermediate: 9.625 in. @ 5442 ft.  
 Hole: 12.25 in. @ 5442 ft.



## Perforation Information

Top (ft sub)	Bottom (ft sub)	Shts/Ft	No Shts	Dt Squeeze
5180	5184			
9207	9751			
7418	7428			
8257	8965			
6114	6124			

## Formation Information

Formation	Depth
CARM	0
NAVA	10
KAYT	310
WINGT	510
CHIN	810
ISMY	4962
HOVWP	5036
GOTH	5157
IS-DC	5235
PRDX	5284
CNCR	8127


TD:

TVD:

PBSD:

API	Fm Name	Md value
43037500400000	ISMAY_UPPER	4962.02
43037500400000	HOVENWEEP_SHA	5036.746
43037500400000	ISMAY_LOWER	5100.648
43037500400000	GOTHIC_SHALE	5156.897
43037500400000	DESERT_CREEK	5234.654
43037500400000	CLASTIC_4	5284.932
43037500400000	CLASTIC_5	5378
43037500400000	CLASTIC_6	5764
43037500400000	CLASTIC_7	5842
43037500400000	CLASTIC_8	5932
43037500400000	CLASTIC_9	6102
43037500400000	CLASTIC_10	6265
43037500400000	CLASTIC_11	6330
43037500400000	CLASTIC_12	6354.495
43037500400000	CLASTIC_13	6492
43037500400000	CLASTIC_14	6603
43037500400000	CLASTIC_15	6651
43037500400000	CLASTIC_16	6805
43037500400000	CLASTIC_17	6857
43037500400000	CLASTIC_18	7140
43037500400000	CLASTIC_19	7399.625
43037500400000	CLASTIC_20	7536
43037500400000	CANE_CREEK_SHA	8127

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Completion/Wellwork Activity**

Well Name : Sepco State 30-23 #1-16H													
Well User ID :		1002307			API Code:			43037500400000		AFE # :		1003634	
Operator :		SEPCO								Operated :		No	
S/T/R :		16 / 30N / 23E			WI :			0		NRI :		0	
County, St. :		San Juan, UT			Field :			N/A		AFE CC :			
Spud Date :		6/13/2013			Dlg Rig Rel Date:			7/30/2013		AFE Total:			
Comp Date:					AFE Type :			Maintenance Workover		PBTD:		0	
796	ft. from	S	line and	412	ft. from	E	line	TD :		0			
Job Purpose :													

Date : 9/30/2013

Activity: MIRU WOR

Days On Completion: 1

Remarks : -

DC :

CCC:

CWC: \$

From 13:00 To 14:00	1 hrs	Category/Rmks:	: ARRIVED ON LOCATION. HSM SPOTTED W/O PUMP & TANK.
From 14:00 To 15:30	1.5 hrs	Category/Rmks:	: WAITED ON W/O RIG.
From 15:30 To 17:00	1.5 hrs	Category/Rmks:	: HSM. MIRU W/O. CHECKED WELL HEAD PRESSURES. SITP=0PSI SICP=UNDER WATER ,SIICP=0 PSI,SISCP=0PSI
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY.

Date : 10/1/2013

Activity: TOOH

Days On Completion: 2

Remarks :

DC :

CCC:

CWC

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0 PSI.,SICP=175 PSI.,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 8:30	1 hrs	Category/Rmks:	: RU PUMP IRON TO WELL HEAD. BLEED CASING OFF TO RIG WORK TANK. OPEN TUBING TO RIG WORK TANK. ENSURING WELL WAS STATIC.
From 8:30 To 10:00	1.5 hrs	Category/Rmks:	: ND 2 9/16" 10K X 7 1/16" PRODUCTION TREE. NU 7 1/16" 10K X 7 1/16" 5K SPOOL, 7 1/16" 5K DUAL BOPS W/BLINDS IN THE BOTTOM, 2 7/8" RAMS IN THE TOP. INSTALLED 6' PUP JOINT INTO TUBING HANGER. INSTALLED TIW IN TOP OF SUB.
From 10:00 To 10:30	0.5 hrs	Category/Rmks:	: BACKED OUT WRAP AROUND PINS. LATCHED ONTO TUBING.PU ROTATED TUBING TO RIGHT AT 40K & RELEASED PKR. REMOVED TIW VALVE,6' PUP JOINT,LD TUBING HANGER.
From 10:30 To 13:00	2.5 hrs	Category/Rmks:	: TOOH WITH 206 JOINTS OF 2 7/8" L80 6.5# 8 RD TUBING STANDING BACK,LD 2' PUP JOINT,1 JOINT OF 2 7/8" L80 6.5# 8 RD TUBING,7" PRODUCTION PAKER,6' PUP JOINT & RENTRY GUIDE.
From 13:00 To 13:30	0.5 hrs	Category/Rmks:	: RACKED AND TALLIED TUBING 44 JOINTS OF 2 7/8" L80 6.5# 8 RD TUBING.
From 13:30 To 14:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/2/2013**Activity:** Run CBP**Remarks :****DC :****CCC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI.,SIICP=0 PSI.,SISCP=0 PSI.
From 7:30 To 9:30	2 hrs	Category/Rmks:	: PUMU 7" CBP & SETTING TOOL JOH WITH 1 JOINT OF 2 7/8" L80 6.5# 8RD TUBING, 2' PUP JOINT (FLAGGER),50 JOINTS OF 2 7/8" L80 6.5# 8RD TUBING. CBP SET @ 1704'. TRIED TO PULL FREE WITH NO SUCCESS. DROPPED 1.25" O.D. BALL. PRESSURED UP TO 1600 PSI. RELEASING FROM CBP. POOH WITH 50 JTS OF 2 7/8" L80 6.5# 8RD TUBING,2' PUP JT,1 JT OF 2 7/8" L80 6.5# 8RD TUBING, LD SETTING TOOL.
From 9:30 To 16:00	6.5 hrs	Category/Rmks:	: WAITED ON DRILL COLLARS AND TOOLS. SET FRAC TANKS,STARTED LOADING FRAC TANKS. RU FLOWBACK IRON.
From 16:00 To 18:30	2.5 hrs	Category/Rmks:	: PUMU 5 7/8" BIT,BIT SUB,20-3 1/2" DRILL COLLARS,X/OVER, 33 JOINTS OF 2 7/8" L80 6.5# 8RD TUBING TAGGED PLUG. LD 1 JOINT OF 2 7/8" L80 6.5# TUBING. INSTALLED TIW.
From 18:30 To 19:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Date :** 10/3/2013**Activity:** DO CBP**Days On Completion:** 4**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SITP=0PSI,SICP=0 PSI.,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 8:30	1 hrs	Category/Rmks:	: MIRU POWER SWIVEL. PU JOINT #33 TAGGED PLUG @ 1704'. LOADED HOLE WITH 49 BBLS OF 10#. BROKE CIRCLULATION DOWN THE TUBING RETURNING OUT THE CASING.
From 8:30 To 10:00	1.5 hrs	Category/Rmks:	: DRILLED OUT CBP WITH 10K WOB.CIRCLATED CLEAN. PU JT #34. RIH TO 1750' NO DRAG.
From 10:00 To 13:30	3.5 hrs	Category/Rmks:	: RD POWER SWIVEL. TIH WITH 214 JTS OF 2 7/8" L80 6.5# TUBING TO 8700'.
From 10:30 To 17:00	6.5 hrs	Category/Rmks:	: POOH STANDING IN THE DERRICK WITH 247 JTS OF 2 7/8" L80 6.5# TUBING,LD X/OVER,STOOD BACK 20- 3 1/2" DRILL COLLARS,LD BIT SUB,5 7/8" BIT.
From 17:00 To 18:00	1 hrs	Category/Rmks:	: SHUT WELL IN. INSTALLED CANVAS TARP OVER OPEN TOP FRAC TANK. SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/4/2013**Activity:** Run CBP**Days On Completion:** 5**Remarks :****DC :****CCC:****CWC:**

From 12:00 To 12:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI.,SIICP=0 PSI.,SISCP=0 PSI.
From 12:30 To 14:00	1.5 hrs	Category/Rmks:	: WAITED ON CBP.
From 14:00 To 17:00	3 hrs	Category/Rmks:	: PUMU7" CBP & SETTING TOOL, TIH 1 JT OF 2 7/8" L80 6.5# TUBING,2' FLAGGER PUP, 246 JTS OF 2 7/8" L80 6.5# TUBING. TO 8102' CENTER OF ELEMENT
From 17:00 To 17:45	0.75 hr	Category/Rmks:	: DROPPED .75" O.D. BALL,RU TIW VALVE, RU KELLY HOSE,PUMPED BALL DOWN SEATED BALL PRESSURE UP TO 1600 PSI. HELD FOR 10 MINS,BLEED PRESSURE OFF TO 0 PSI. PULLED INTO CBP 5K OVER STRING, PRESSURED UP TO 2800 PSI. HELD FOR 15 MINS,BLEED PRESSURE OFF TO 0 PSI., PULLED 10K OVER STRING WEIGHT,SET 10K DOWN, PULLED 10K OVER STRING WEIGHT PRESSURED UP TO 3200 PSI AND SHEARED OFF. PU FREE. TAGGED PLUG. PLUG SET @ 8102'.RD KELLY HOSE AND TIW VALVE.
From 17:45 To 19:00	.25 hr	Category/Rmks:	: TOOH WITH 246 JTS OF 2 7/8" L80 6.5# TUBING.LD 2' PUP JT,1 JT OF 2 7/8" L80 6.5# TUBING, LD SETTING TOOL.
From 19:00 To 19:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION, SHUT DOWN FOR THE DAY.

**Date :** 10/5/2013**Activity:** Spot Cement**Days On Completion:** 6**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI.,SIICP=0 PSI.,SISCP=0 PSI.
From 7:30 To 10:30	3 hrs	Category/Rmks:	: RIH OUT OF THE DERRICK 20-3 1/2" O.D. DRILL COLLARS,LD 20-3 1/2" O.D. DRILL COLLARS. LOADED OUT BOWL,SLIPS,NUBBINS,AND ALL TOOLS.
From 10:30 To 12:30	2 hrs	Category/Rmks:	: TIH WITH 1-JT 2 7/8" 6.5# L80 TUBING,1-2' PUP JT FOR A FLAGGER,246-JTS OF 6.5# L80 TUBING TAGGED PLUG @ 8102'. PU 1' OFF PLUG.
From 12:30 To 14:00	1.5 hrs	Category/Rmks:	: MIRU HIGH PRESSURE CEMENT PUMP TRUCK AND EQUIPMENT. TESTED PUMP IRON TO 3000 PSI.
From 14:00 To 14:30	0.5 hrs	Category/Rmks:	: PUMPED DOWN THE TUBING 10 BBL SPACER, 5.4 BBLS (26 SX) OF 15.6 PPG CLASS H CEMENT, 46 BBLS OF FLUSH. SPOTTING PLUG @ 7950'-8100'.TOTAL BBLS PUMPED 51 BBLS.
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: RDMO HIGH PRESSURE CEMENT PUMP TRUCK AND EQUIPMENT. TOOH WITH 18 JTS OF 2 7/8" L80 6.5# TUBING. TO 7512'.
From 15:00 To 16:30	1.5 hrs	Category/Rmks:	: INSTALLED TIW VALVE. RU PUMP IRON TO PUMP DOWN THE TUBING OUT THE CASING LOADING THE HOLE WITH DIESEL. (253 BBLS) TOTAL BBLS PUMPED
From 16:30 To 17:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/6/2013**Activity:** PERF**Days On Completion:** 7**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI.,SITP=0PSI,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 10:00	2.5 hrs	Category/Rmks:	: TOO H WITH 228 JOINTS OF 2 7/8" 6.5# L80 TUBING,2' PUP FLAGGER,LD 1-JT OF 2 7/8" L80 6.5# TUBING. FILLED HOLE WITH DIESEL.
From 10:00 To 12:00	2 hrs	Category/Rmks:	: HSM. MIRU ELU AND LUBRICATOR/WL BOP/GREASE HEAD PKG.NU 7 1/16" 5K X 10K FLANGE TO 7 1/16" 5K BOPS. TESTED TO 3000 PSI.
From 12:00 To 14:00	2 hrs	Category/Rmks:	: PUMU GR/CCL. RIH TO 7500' CORRECTED DEPT WITH OPEN HOLE LOG. POOH LD GR/CCL
From 14:00 To 15:00	1 hrs	Category/Rmks:	: PUMU 4 1/2" X 10' STIM GUNS LOADED W/6SPF 60 DEG PHASING,39G CHARGES,& 6' OF PROPELLENT. RIH TO DEPT. PRESSURED UP CASING TO 500 PSI. PERFORATED FROM 7418'-7428'. SEEING NO PRESSURE CHANGE ON THE CASING.
From 15:00 To 16:00	1 hrs	Category/Rmks:	: POOH CONFIRMED ALL SHOTS FIRED. CASING PRESSURE 50 PSI. OPENED CASING TO OPEN TOP FRAC TANK. WELL FELL OFF TO 0 PSI.
From 16:00 To 17:00	1 hrs	Category/Rmks:	: RDMO ELU & EQUIPMENT. SHUT WELL IN SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Date :** 10/7/2013**Activity:** SWABBING**Days On Completion:** 8**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI.,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: RIH WITH 3-STANDS OF 2 7/8" L80 6.5# TUBING,LD 6-JTS OF L80 6.5# TUBING.
From 8:00 To 10:00	2 hrs	Category/Rmks:	: HOOKED UP VAC. TRUCK TO BACKSIDE TO RECOVER DISPLACEMENT. PUMU 7" RTTS TEST PKR,1-JT OF 2 7/8" L80 6.5# TUBING,1-X/NIPPLE,223-JTS OF 2 7/8" L80 6.5# TUBING.
From 10:00 To 10:30	0.5 hrs	Category/Rmks:	: SET PKR @ 7352' IN 15K COMPRESSION. TESTED PAKER TO 500 PSI. BLEED CASING OFF TO 0 PSI. SHUT WELL IN.
From 10:30 To 11:30	1 hrs	Category/Rmks:	: RDMO W/O RIG TO SIDE OF LOCAITON.
From 11:30 To 14:00	2.5 hrs	Category/Rmks:	: WAITED ON SWAB RIG. MIRU SWAB UNIT.
From 14:00 To 15:30	1.5 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" RUBBER SWAB CUPS TAGGED FLUID AT SURFACE PULLED FROM 2000' RECOVERING 10 BBLS. RUN # 2 RIH WITH 2-2 7/8" RUBBER SWAB CUPS TAGGED FLUID AT 2000' PULLED FROM 4000' RECOVERING 11 BBLS.
From 15:30 To 17:00	1.5 hrs	Category/Rmks:	: MADE 3 MORE SWAB RUNS RECOVERING 41.5 BBLS WELL SWABBED DRY TO A DEPTH OF 7200'
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.



**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/8/2013**Activity:** SWABBING**Days On Completion:** 9**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SITP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: RIH WITH 2-2 7/8" SWAB CUPS. NO FLUID TAG. POOH NO RECOVERY
From 8:00 To 9:00	1 hrs	Category/Rmks:	: WAITED 1 HOUR. RIH WITH 2-2 7/8" SWAB CUPS NO FLUID TAG. POOH NO RECOVERY.
From 9:00 To 9:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION SHUT DOWN FOR THE DAY.

**Date :** 10/9/2013**Activity:** Pull Packer**Days On Completion:** 10**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SITP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 9:30	2 hrs	Category/Rmks:	: RDMO SWAB UNIT TO SIDE OF LOCATION. MIRU W/O RIG.
From 9:30 To 10:00	0.5 hrs	Category/Rmks:	: LATCHED ONTO TUBING OPENED BYPASS ON RTTS, EQUILIZED TUBING AND CASING. RELEASED PKR.
From 10:00 To 11:00	1 hrs	Category/Rmks:	: LD 40 JTS OF 2 7/8" 6.5# TUBING.
From 11:00 To 12:30	1.5 hrs	Category/Rmks:	: TOO H WITH 183-JOINTS OF 2 7/8" L80 6.5# TUBING,X/NIPPLE,1-JOINT OF 2 7/8" L80 6.5# TUBING. LD PKR.
From 12:30 To 13:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Date :** 10/10/2013**Activity:** PERF**Days On Completion:** 11**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 8:30	1 hrs	Category/Rmks:	: MIRU ELU & EQUIPMENT.
From 8:30 To 10:30	2 hrs	Category/Rmks:	: PUMU GR/CCL, 7" CIBP. RIH TO 7350' CORRECTED DEPTH TO OPEN HOLE LOG. SET CIBP @ 7350'. POOH LD GL/CCL. TESTED CIBP TO 3000 PSI. BLEED OFF TO 0 PSI.
From 10:30 To 12:00	1.5 hrs	Category/Rmks:	: PUMU DUMP BAILER, FILLED WITH 15.6 CLASS H CEMENT. RIH TO 7350' DUMPED 10' OF CEMENT ON TOP OF CIBP.POOH LD DUMP BAILER.
From 12:00 To 15:30	3.5 hrs	Category/Rmks:	: WAITED FOR CEMENT TO SET
From 15:30 To 16:00	0.5 hrs	Category/Rmks:	: PUMU GR/CCL, 4 1/2" X 10' STIM GUNS LOADED W/6 SPF,60° PHASING,39g CHARGES,& 6' OF PROPELLANT.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: CORRECTED DEPT WITH CASING COLLARS. PULLED INTO POSITION. PRESSURED UP ON THE CASING TO 300 PSI. PERFORATED FROM 6114'-6124'. CASING PRESSURE INCREASED TO 700 PSI. POOH LD GUN CONFIRMED ALL SHOTS FIRED.
From 16:30 To 17:30	1 hrs	Category/Rmks:	: RDMO ELU AND EQUIPMENT. OPENED WELL TO FLOWBACK TANK. WELL FELL OFF TO 0 PSI.
From 17:30 To 18:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DAY.



**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/11/2013**Activity:** SWABBING**Days On Completion:** 12**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI.
From 7:30 To 10:00	2.5 hrs	Category/Rmks:	: PUMU 7" RTTS PAKER,1-SEAT NIPPLE,1-JOINT OF 2 7/8" L80 6.5# TUBING,1-X NIPPLE,183-JOINTS OF 2 7/8" L80 6.5# TUBING.
From 10:00 To 10:30	0.5 hrs	Category/Rmks:	: INSTALLED TUBING HANGER. SET PAKER @ 6045' TO CENTER OF ELEMENT WITH 15K COMPRESSION. LANDED TUBING HANGER INTO WELL HEAD. RUN IN WRAP AROUND PINS TESTED PAKER TO 500 PSI. BLEED CASING OFF TO 0 PSI.
From 10:30 To 12:00	1.5 hrs	Category/Rmks:	: ND BOPS,NU PRODUCTION TREE, RDMO W/O RIG AND EQUIPMENT.
From 12:00 To 12:30	0.5 hrs	Category/Rmks:	: MIRU SWAB UNIT.
From 12:36 To 13:00	0.4 hrs	Category/Rmks:	: RIH W/2 7/8" RUBBER SWAB CUPS TAGGED FLUID @ SURFACE PULLED FROM 2000' RECOVERING 10 BBLs.
From 13:00 To 14:30	1.5 hrs	Category/Rmks:	: MADE 4 SWAB RUNS RECOVERING A TOTAL OF 34 BBLs WELL SWABBED DOWN TO 5900'. RIH WITH RUN # 5 NO FLUID TAG NO RECOVERY.
From 14:30 To 16:00	1.5 hrs	Category/Rmks:	: WAITED 1 HOUR. RIH WITH 2 7/8" RUBBER SWAB CUP NO TAG NO RECOVERY.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Date :** 10/12/2013**Activity:** SWABBING**Days On Completion:** 13**Remarks :****DC :****CCC:****CWC:**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI,SITP=VAC
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: RIH WITH 2 7/8" RUBBER SWAB CUP NO TAG PULLED FROM 5900' NO RECOVERY.
From 8:00 To 12:00	4 hrs	Category/Rmks:	: RDMO SWAB UNIT. SHUT WELL IN. RELEASED FLOWBACK IRON,FRAC TANKS,FORKLIFT,DUMPSTER,PORTA JON.
From 12:00 To 15:00	3 hrs	Category/Rmks:	: TRANSFERRED REMAINING DIESEL TO PRODUCTION TANKS. (TOTAL 359 BBLs OF USUABLE DIESEL ON LOCATION)TOTAL 388 BBLs USUABLE BRIEN ON LOCAITON
From 15:00 To 16:00	1 hrs	Category/Rmks:	: SECURED LOCATION SHUT DOWN FOR THE DAY.

**Date :** 10/13/2013**Activity:** SHUT IN**Days On Completion:** 14**Remarks :****DC :****CCC:****CWC:****Date :** 10/14/2013**Activity:** SHUT IN**Days On Completion:** 15**Remarks :****DC :****CCC:****CWC:**

**Southwestern Energy Company**

2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032

**Daily Activity Report**

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**Date :** 10/15/2013**Activity:** SHUT IN**Days On Completion:** 16**Remarks :****DC :****CCC:****CWC:**

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**Date :** 10/16/2013**Activity:** SHUT IN**Days On Completion:** 17**Remarks :****DC :****CCC:****CWC:**

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**Date :** 10/17/2013**Activity:** SHUT IN**Days On Completion:** 18**Remarks :****DC :****CCC:****CWC:**

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**Date :** 10/18/2013**Activity:** SHUT IN**Remarks :**

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**Date :** 10/19/2013**Activity:** SHUT IN**Remarks :**

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**Date :** 10/20/2013**Activity:** SHUT IN**Remarks :**

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**Date :** 10/21/2013**Activity:** SHUT IN**Remarks :**

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/22/2013**Activity:** DFIT**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: SITP = 0 psi. SICP = 0 psi SIICP = 0 psi SISCP = 0 psi. Held Safety Meeting.
From 7:30 To 10:30	3 hrs	Category/Rmks:	: MIRU HP pump & iron. RU surface memory pressure gauges to production tree. Pressure test iron & production tree to 5,000 psi. Pumped 1,000 gallons (23.8 bbls) of 7% KCl followed by 36 bbls of 10.0 ppg brine for displacement. Established injection at 1.5 BPM/4300 psi with 33 bbls gone.  ISiP = 3644 psi (FG = 1.12 psi/ft) 5 Min = 3626 psi 10 Min = 3622 psi 15 Min = 3622 psi 60 Min = 3635 psi  RDMO HP pump & iron. Secure well. Plan to continue monitoring surface pressure.

**Date :** 10/23/2013**Activity:** SHUT IN**Remarks :****Date :** 10/24/2013**Activity:** SHUT IN**Remarks :****Date :** 10/25/2013**Activity:** SHUT IN**Remarks :****Date :** 10/26/2013**Activity:** SHUT IN**Remarks :****Date :** 10/27/2013**Activity:** SHUT IN**Remarks :**

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 10/28/2013**Activity:** SWABBING**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SIICP=0 PSI.,SISCP= 0 PSI,SITP=3000psi
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: BLEED TUBING OFF TO PRODUCTION TANK TO 0 PSI.
From 8:00 To 9:00	1 hrs	Category/Rmks:	: MIRU SWAB UNIT. PU 2 7/8" SWAB CUPS TAGGED FLUID @ SURFACE PULLED FROM 2200'
From 9:00 To 10:30	1.5 hrs	Category/Rmks:	: MADE A TOTAL OF 5 RUNS RECOVERING 34 BBLs. 5TH RUN PULLED FROM 5900' SEEING A LITE BLOW AFTER.
From 10:30 To 11:00	0.5 hrs	Category/Rmks:	: RUN # 6 NO FLUID TAG PULLED FROM 5900' RECOVERED 2 BBLs. RUN # 7 NO TAG NO RECOVERY RECOVERING TRASH IN SWAB CUPS.
From 11:00 To 12:00	1 hrs	Category/Rmks:	: WAITED 1 HOUR FOR FLUID ENTRY.
From 12:00 To 12:30	0.5 hrs	Category/Rmks:	: RIH WITH 2 7/8" RUBBER SWAB CUPS. NO FLUID TAG NO RECOVERY
From 12:30 To 13:30	1 hrs	Category/Rmks:	: WAITED 1 HOUR FOR FLUID ENTRY.
From 13:30 To 13:45	0.25 hrs	Category/Rmks:	: RIH WITH 2 7/8" RUBBER SWAB CUPS. NO FLUID TAG NO RECOVERY
From 13:45 To 14:00	0.25 hrs	Category/Rmks:	: SECURED LOCATION. LEAVING TUBING OPEN TO PRODUCTION TANK. SHUT DOWN FOR THE DAY.

**Date :** 10/29/2013**Activity:** SWABBING**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE,SICP=0 PSI,SIICP=0 PSI.,SISCP= 0 PS,TUBING OPEN TO PRODUCTION TANK
From 7:30 To 8:30	1 hrs	Category/Rmks:	: RU SWAB LUBRICATOR RIH WITH 2 7/8" SWAB CUPS TAGGED FLUID @ 5700' PULLED FROM 5900'. RECOVERING 200' OF FLUID
From 8:30 To 9:00	0.5 hrs	Category/Rmks:	: RIH NO FLUID TAG NO RECOVERY.
From 9:00 To 9:30	0.5 hrs	Category/Rmks:	: RDMO SWAB UNIT. SHUT WELL IN SECURED LOCATION. SHUT DOWN FOR THE DAY.

**Date :** 10/30/2013**Activity:** SHUT IN**Remarks :****Date :** 10/31/2013**Activity:** SHUT IN**Remarks :****Date :** 11/1/2013**Activity:** SHUT IN**Remarks :**

**Southwestern Energy Company**

2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032

**Daily Activity Report**

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**Date :** 11/2/2013

**Activity:** SHUT IN

**Remarks :**

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**Date :** 11/3/2013

**Activity:** SHUT IN

**Remarks :** -

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Completion/Wellwork Activity**

Well Name : Sepco State 30-23 #1-16H										
Well User ID :		1002307		API Code:		43037500400000		AFE # :		1003787
Operator :		SEPCO						Operated :		No
S/T/R :		16 / 30N / 23E		WI :		1		NRI :		0
County, St. :		San Juan, UT		Field :		N/A		AFE CC :		
Spud Date :		6/13/2013		Dlg Rig Rel Date:		7/30/2013		AFE Total:		
Comp Date:				AFE Type :		Exploration Drill & Complete		PBSD:		0
796	ft. from	S	line and	412	ft. from	E	line	TD :		0
Job Purpose :										

Date : 11/4/2013

Activity: MIRU WOR

Remarks :

From 12:00 To 15:00	3 hrs	Category/Rmks:	: MIRU WO RIG AND EQUIPMENT.
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Date : 11/5/2013

Activity: RU WOR &amp; NU BOPS

Remarks :

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0 PSI, SICP=0PSI, SISCIP=0PSI,SIICP=0PSI.
From 7:30 To 8:30	1 hrs	Category/Rmks:	: ND 10K PRODUCTION TREE INSTALLED 6' PUP JOINT INTO TUBING HANGER WITH TIW VALVE. NU 7 1/16" 10K X 7 1/16" 5K SPOOL. NU 7 1/16" DOUBLE 5K BOPS. WITH 2 7/8" PIPE RAMS ON TOP AND BLINDS ON BOTTOM. RIGGED UP WO RIG FLOOR.BACKED OUT WRAP AROUND PINS.
From 8:30 To 9:30	1 hrs	Category/Rmks:	: LATCHED ONTO 6' PUP JOINT. RELEASED RTTS LET WELL EQUALIZE.LD 6' PUP JOINT, TUBING HANGER.
From 9:30 To 12:00	2.5 hrs	Category/Rmks:	: TOOH WITH 183 JOINTS OF 2 7/8" L80 6.5# TUBING, X/NIPPLE,1 JOINT OF 2 7/8" L80 6.5# TUBING. LD PKR
From 12:00 To 16:00	4 hrs	Category/Rmks:	: TIH OPEN ENDED WITH 224 JOINTS OF 2 7/8" L80 6.5# TUBING TO 7327' TAGGED CEMENT PLUG. LD JOINT NUMBER 224.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.
From 16:30 To	0 hrs	Category/Rmks:	: SET FRAC TANK FILLED WITH 300 BBLS OF 2 % KCL.

Date : 11/6/2013

Activity: CIRCULATE HOLE

Remarks :

From 7:00 To 7:15	.25 hr	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0 PSI, SICP=0PSI, SISCIP=0PSI,SIICP=0PSI.
From 7:15 To 8:30	.25 hr	Category/Rmks:	: RU PUMP IRON TO PUMP DOWN THE CASING OUT THE TUBING. CIRCULATED CURRENT WELL BORE FLUID OUT WITH 2% KCL. PUMPED A TOTAL OF 220 BBLS.
From 8:30 To 8:45	.25 hr	Category/Rmks:	: SHUT WELL IN AND SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/7/2013**Activity:** Pump Cement Plug**Remarks :** -

From 7:00 To 7:15	0.25 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0 PSI, SICP=0PSI, SISCIP=0PSI,SIICP=0PSI.
From 7:15 To 10:00	2.75 hrs	Category/Rmks:	: WAITED ON CEMENT PUMP TRUCK
From 10:00 To 12:00	2 hrs	Category/Rmks:	: MIRU CEMENT PUMP TRUCK AND EQUIPMENT. HSM, PRESSURE TESTED LINES TO 2000 PSI. SPOTTED 40 SX ( 8BBLs) OF 15.8 PPG CLASS H CEMENT FROM 7330'-7090'.
From 12:00 To 12:30	0.5 hrs	Category/Rmks:	: LD 40 JOINTS OF 2 7/8" L80 6.5# TUBING.
From 12:30 To 14:00	1.5 hrs	Category/Rmks:	: TOO H WITH 185 JTS OF 2 7/8" L80 6.5# TUBING.
From 14:00 To 15:00	1 hrs	Category/Rmks:	: HALLIBURTON BROUGHT THE WRONG SETTING TOOL. HAD TO SHUT DOWN.
From 15:00 To 15:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN. SHUT DOWN FOR THE DAY.

**Date :** 11/8/2013**Activity:** Pump Cement Plug**Remarks :**

From 7:00 To 9:00	2 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE , SICP=0PSI, SISCIP=0PSI,SIICP=0PSI. PUMU 7" CIBP TIH WITH 185 JTS OF 2 7/8" L80 6.5# TUBING TO 6089' SET CIBP.
From 9:00 To 10:30	1.5 hrs	Category/Rmks:	: TOO H WITH 185 JTS OF 2 7/8" L80 6.5# TUBING LD SETTING TOOL.
From 10:30 To 11:30	1 hrs	Category/Rmks:	: RIH OPEN ENDED WITH 185 JTS OF L80 6.5# TUBING TO 6089'.
From 11:30 To 12:00	0.5 hrs	Category/Rmks:	: RU RIG PUMP FILLED HOLE WITH 43 BBLs OF 2% KCL.
From 12:00 To 13:00	1 hrs	Category/Rmks:	: RU CEMENT PUMP TRUCK. SPOTTED 40SX(8BBLs) OF 15.8 PPG CLASS H CEMENT FROM 6089'-5859'
From 13:00 To 14:00	1 hrs	Category/Rmks:	: RDMO CEMENT EQUIPMENT. LD 29 JTS OF 2 7/8" L80 6.5# TUBING.
From 14:00 To 15:00	1 hrs	Category/Rmks:	: POOH WITH 156 JTS OF 2 7/8" L80 6.5# TUBING.
From 15:00 To 16:00	1 hrs	Category/Rmks:	: RD RIG FLOOR ND 7 1/16" 5K BOPS, NU 10K BLIND FLANGE. FILLED CASING WITH 16BBLs OF 2% KCL.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/9/2013**Activity:** PERF**Remarks :**

From 6:00 To 6:15	0.25 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE , SICP=0PSI, SISCP=0PSI,SIICP=0PSI.
From 6:15 To 7:00	0.75 hrs	Category/Rmks:	: MIRU HIGH PRESSURE PUMP TRUCK. TESTED PUMP LINES TO 9000 PSI. BLEED OFF. PRESSURE TESTED CASING TO 8500 PSI CHARTED FOR 15 MINS. BLEED CASING OFF TO 0 PSI. RDMO HIGH PRESSURE PUMP TRUCK.
From 7:00 To 9:00	2 hrs	Category/Rmks:	: ND 7 1/16" X 10K BLIND FLANGE. NU 7 1/16" 10K SPOOL X 7 1/16" 5K, 7 1/16" 5K DUAL BOPS, 7 1/16" 5K X 10K 4 1/16". MIRU ELU AND LUBRICATOR/WL BOP/ GREASE HEAD PKG.
From 9:00 To 12:00	3 hrs	Category/Rmks:	: RIH WITH GR/CCL CORRLATED DEPT WITH OPEN HOLE GR. POOH
From 12:00 To 14:00	2 hrs	Category/Rmks:	: PUMU 4"X4' PERF GUNS LOADED 4/SPF, 120 DEG PHASING. (TITAN CHARGE 4039 321T, PEN-57",EH-037") TOTAL 16 SHOTS. PRESSURE UP ON CASING TO 260 PSI. PERFORATED 5180'-5184'. CASING PRESSURE DECREASED TO 160 PSI.
From 14:00 To 15:00	1 hrs	Category/Rmks:	: POOH CONFIRMED ALL SHOTS FIRED. RDMO ELU & EQUIPMENT.
From 15:00 To 17:00	2 hrs	Category/Rmks:	: PUMU RTTS TEST PAKER, 2 7/8" SEAT NIPPLE,1 JTS OF 2 7/8" L80 6.5# TUBING, X NIPPLE,185 JOINTS OF 2 7/8" L80 6.5# TUBING. TIH TO 5134' SET PKR WITH 20K IN COMPRESSION.LANDED TUBING IN HANGED. TESTED PKR TO 2000 PSI.
From 17:00 To 19:00	2 hrs	Category/Rmks:	: RD RIG FLOOR. ND 7 1/16" 5K BOPS, 7 1/16" 5K X 10K SPOOL. NU FRAC TREE. TESTED FRAC TREE TO 500 PSI FOR 5 MINS,9500 PSI FOR 10 MINS. CHART IN WELL FILE.
From 19:00 To 19:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DA

**Date :** 11/10/2013**Activity:** DFIT**Remarks :**

From 7:00 To 9:00	2 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE , SICP=0PSI, SITP=0PSI, SISCP=0PSI,SIICP=0PSI. RDMO WO RIG & EQUIPMENT.
From 9:00 To 14:00	5 hrs	Category/Rmks:	: MIRU ELU & EQUIPMENT RU LUB WL BOPS GREASE PKG. RIH WITH TAMP LOG/PLUSE NETRON LOG. RIH TO 5300' LOGGED FROM 5250'-5080' @ 150 FPH SPEAD UP TO 30 FPM LOGGING TO 4600'( FOR THE BASE TEMP LOG)
From 14:00 To 15:00	1 hrs	Category/Rmks:	: RDMO ELU & EQUIPMENT. MIRU HIG PRESSURE PUMP TRUCK.
From 15:00 To 16:00	1 hrs	Category/Rmks:	: HSM, PRESSURED TESTED PUMP LINES TO 8500 PSI. STATRED PUMP @ 1 BPM @ 2800 PSI, 2 BPM @ 3260 PSI, 3 BPM @ 2600 PSI. MAX TREATING PRESSURE 3377 PSI. PUMPED A TOTAL 35 BBLS. RDMO HIGH PRESSURE PUMP TRUCK & EQUIPMENT.(MONITERED CASING WHILE PUMPING) ISIP=1993 PSI,5 MIN=1894 PSI, 10 MIN=1851 PSI,15 MIN=1808 PSI.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DAY.

**Date :** 11/11/2013**Activity:** PREP LOCATION**Remarks :**

From 7:00 To 7:15	0.25 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE , SICP=0PSI, SITP=830PSI, SISCP=0PSI,SIICP=0PSI.
From 7:15 To 17:00	0.75 hrs	Category/Rmks:	: PREP LOCATION FOR FRAC



**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/12/2013**Activity:** Log well**Remarks :**

From 7:00 To 7:15	0.25 hr	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE , SICP=0PSI, SITP=530PSI, SISCIP=0PSI,SIICP=0PSI.
From 7:15 To 11:00	3.75 hr	Category/Rmks:	: MIRU FLOWBACK EQUIPMENT. FILLED FRAC TANKS
From 11:00 To 11:30	0.5 hrs	Category/Rmks:	: PULLED GAUGES OFF WELL HEAD SENT IT FOR DATA RECORDING FORWARDED RESULTS TO ENGINEERING. BLEED WELL OFF TO 0 PSI.
From 11:30 To 17:00	5.5 hrs	Category/Rmks:	: MIRU ELU & EQUIPMENT. RIH WITH ELINE TEMP LOG AND PLUSE NEUTRON LOG IN C/O MODE LOGGED FROM 5250'-5080' @ 150 FPH. SPEED UP TO 30 FPM FOR TEMP LOG TO 4500'. POOH
From 17:00 To 17:30	0.5 hrs	Category/Rmks:	: RD LUBRICATOR & ELINE BOPS.
From 17:30 To 18:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DAY.

**Date :** 11/13/2013**Activity:** FRAC**Remarks :**

From 0:00 To 5:00	5 hrs	Category/Rmks:	: HSM. MIRU FRAC EQUIPMENT.
From 5:00 To 12:00	7 hrs	Category/Rmks:	: TESTED PUMP LINES TO 9500 PSI.,INCREASED CAING PRESSURE TO 1000 PSI. WAITED ON CHEMICALS
From 12:00 To 13:00	1 hrs	Category/Rmks:	: HSM, FRACED FIRST PORTION OF THE JOB AS DESIGNED. WITH CHEMICAL & RA TRACER @ .75 PPM. HIGHEST TRESTING PRESSURE 4017 PSI,MAX RATE 10.6 BPM,BREAKING @ 3664 PSI,TOTAL BBLS PUMPED 312 BBLS,TOTAL 40/70 SAND 1250 LBS,20/40 SAND 3302LBS,ISIP=2228 PSI,5 MIN=1912 PSI,10 MIN=1881 PSI,FRAC GRADIENT .85 SHUT WELL IN.
From 13:00 To 17:00	4 hrs	Category/Rmks:	: RU ELU. PUMU TEMP LOG AND PLUSE NEUTRON LOG. NU TO WELL HEAD. WHEN GOING TO PRESSURE TEST HAD TO WORK ON THE GREASE HEAD TO GET A GOOD TEST. TESTED TO 3000 PSI.
From 17:00 To 23:00	6 hrs	Category/Rmks:	: RIH TO 5300' LOGGED FROM 5250'-5080' WITH THE PLUSE NEUTRON LOG @ 150' FPH SPEED. THEN INCREASED SPEED TO 30 FPM TO 4600' FOR THE TEMP LOG.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/14/2013**Activity:** Log well**Remarks :**

From 0:00 To 2:00	2 hrs	Category/Rmks:	: RIH WITH TEMP LOG & PLUSE NEUTRON LOG TO LOGGED FROM 5300'-4600' WITH TEMP LOG POOH.
From 2:00 To 3:00	1 hrs	Category/Rmks:	: WAITED 1 HOUR TO PERFORM ADDITIONAL LOG RUN.
From 3:00 To 5:00	2 hrs	Category/Rmks:	: RIH WITH TEMP LOG & PLUSE NEUTRON LOG TO LOGGED FROM 5300'-4600' WITH TEMP LOG POOH. RD LUB.
From 5:00 To 7:00	2 hrs	Category/Rmks:	: HSM,TESTED PUMP LINES TO 9500 PSI.
From 7:00 To 8:00	1 hrs	Category/Rmks:	: FRACED SECOUND PORTION OF THE FRAC. Open Well at 0700 Hrs at 559 psi. Breakdown – 4299 psi at 4.4 bpm Initial ISIP – 2007 psi, FG – 0.83 psi /ft Final ISIP – 2075 psi, FG – 0.84 psi/ft  Avg P – 3944 psi Max P – 4634 psi  Avg R – 15.2 bpm Max R – 16.3 bpm  Total Clean Volume – 583 bbls Total Sand – 12,860 lbs white sand Max Conc – 2.1 ppg
From 8:00 To 9:00	1 hrs	Category/Rmks:	: ND FRAC HEAD. NU 4 1/16" FLANGE FOR ELU. PUMU TEMP LOG AND PLUSE NEUTRON LOG. NU LUBRICATOR. TESTED TO 3000 PSI .
From 9:00 To 15:30	6.5 hrs	Category/Rmks:	: RIH TO 5300' LOGGED @ 150 FPH FROM 5250'-5080' WITH PLUSE NEUTRON LOG. SPEAD UP TO 30 FPM TO 4600'.RIH FOR A REPEAT PASS TO 5300' LOGGED FROM 5250'-5080' SPEAD UP TO 30 FPM TO 4600' POOH
From 15:30 To 18:00	2.5 hrs	Category/Rmks:	: LD TEMP AND PLUSE NEUTRON LOG. PUMU INSPECTROL LOG RIH TO 5300' LOGGED TO 4700'. POOH DOWNLOAED DATA.OPENED WELL TO FLOWBACK ON A 8/64 CHOKE. TURNED OVER TO FLOWBACK FOR THE NIGHT.

**Date :** 11/15/2013**Activity:** FLOWBACK**Remarks :**

From 7:00 To 15:00	8 hrs	Category/Rmks:	: WATCHED WELL FLOWBACK. WELL FELL OFF TO 0 PSI. RU ELU
From 15:00 To 20:00	5 hrs	Category/Rmks:	: RIH WITH TEMP LOG & PLUSE NEUTRON LOG TO LOGGED FROM 5300'-4600' WITH TEMP LOG POOH.RDMO ELU.
From 20:00 To	0 hrs	Category/Rmks:	: TURNED WELL OVER TO FLOWBACK, WATER 8.6# CLORIDES 30,000, TOTAL AFTER FRAC RECOVERY 120 BBLS

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/16/2013**Activity:** SHUT IN**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN RELEASED FLOWBACK CREW.
From 7:30 To 20:00	2.5 hrs	Category/Rmks:	: WELL SHUT IN
From 20:00 To 20:30	0.5 hrs	Category/Rmks:	: CHECKED WELL HEAD PRESSURE 20 PSI ON THE TUBING. OPENED WELL TO FRAC TANK. BLEED OFF TO 0 PSI.
From 20:30 To 21:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SHUT DOWN FOR THE DAY.
From 21:00 To	0 hrs	Category/Rmks:	: PIT WAS SEEDED TODAY, RELEASED FRAC LIGHTS

**Date :** 11/17/2013**Activity:** RU WOR & NU BOPS**Remarks :**

From 7:00 To 12:00	5 hrs	Category/Rmks:	: CHECKED WELL HEAD PRESSURE 0 PSI ON THE TUBING. 900 PSI ON THE CASING. SISCP=0PSI, SIICP=0PSI. RDMO FLOWBACK EQUIPMENT.
From 12:00 To 14:00	2 hrs	Category/Rmks:	: HSM. MIRU WO RIG & EQUIPMENT. LAYED PUMP LINES.
From 14:00 To 16:00	2 hrs	Category/Rmks:	: BLEED CASING OFF TO 0 PSI. TO OPEN TOP FRAC TANK. ND 4 1/16" FRAC TREE.
From 16:00 To 17:00	1 hrs	Category/Rmks:	: NU 7 1/16" 10K X 5K DSA,5K SPOOL, 7 1/16" DUAL RAM BOPS WITH PIPE RAMS IN THE TOP AND BLIND IN THE BOTTOM. RU RIG FLOOR INSTALLED 8' PUP JOINT & TIW VALVE.
From 17:00 To 18:00	1 hrs	Category/Rmks:	: RELEASED TUBING HANGER PINS. LATCHED ONTO LIFT SUB RELEASED PKR. LD TUBING SUB & TUBING HANGER. INSTALLED TIW VALVE.
From 18:00 To 18:30	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.,

**Date :** 11/18/2013**Activity:** RUN Production Tubing**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0PSI,SICP=160 PSI, SISCP=0PSI,SIICP=0PSI.
From 7:30 To 9:30	2 hrs	Category/Rmks:	: BLEED WELL OFF TO FRAC TANK. TOOH WITH 155 JTS OF 2 7/8" L80 6.5# TUBING. LD X NIPPLE, 1 JT OF 2 7/8" L80 6.5# TUBING,SEAT NIPPLE, 7" PKR.
From 9:30 To 11:00	1.5 hrs	Category/Rmks:	: PUMU SEAT NIPPLE,3 JTS OF 2 7/8" L80 6.5# TUBING,7" TUBING ANCHOR,2 JTS OF 2 7/8" L80 6.5# TUBING,2' PUP JT 2 7/8",155 JTS OF 2 7/8" L80 6.5# TUBING. (SEAT NIPPLE DEPT 5198')
From 11:00 To 12:00	1 hrs	Category/Rmks:	: RU RIG FLOOR. ND BOPS, SPOOL, NU SLIP FLANGE ADAPTOR, SET TUBING ANCHOR IN 12K TENSION (SET @ 5100') INSTALLED SLIPS IN SLIP FLANGE ADAPTOR, INSTALLED PACKING IN SLIP FLANGE ADAPTOR.
From 12:00 To 13:00	1 hrs	Category/Rmks:	: CHANGED RIG OVER FROM TUBING TO RODS.
From 13:00 To 17:30	4.5 hrs	Category/Rmks:	: PUMU 1-1 1/4" X 20' DIP TUBE,1-1.75" X 24' RHBC INSERT PUMP W/5'PLUNGER & DOUBLE TV/SV TESTED PUMP @ SURFACE, 1-STABLIZER SUB WITH 3/4" PINS,10- 1 1/2" API K SINKER BARS W/3/4" PINS, 35-3/4" S-67 RODS W/T COUPLINGS,85-7/8" S-67 RODS W/T COUPLINGS, 53-1" S-67 RODS.
From 17:30 To 18:00	0.5 hrs	Category/Rmks:	: SHUT WELL IN SECURED LOCATION SHUT DOWN FOR THE DAY.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/19/2013**Activity:** RU Pumping Unit**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. SITP=0PSI,SICP=0 PSI, SISC=0PSI,SIICP=0PSI.
From 7:30 To 9:00	1.5 hrs	Category/Rmks:	: RIH WITH 23-1" S-67 RODS TAGGED UP. LD 2 RODS. SPACED OUT 3' OFF BOTTOM WITH 1-8' PONY SUB,1-6' PONY SUB,1-4' PONY SUB, 1-2' PONY SUB PU POLISH ROD. SEATED PUMP. INSTALLED POLISH ROD CLAMPS. TESTED PUMP TO 300 PSI. SHUT WELL IN.
From 9:00 To 12:00	3 hrs	Category/Rmks:	: RDMO WO RIG & EQUIPMENT. CLEANED & RELEASED FRAC TANKS.
From 12:00 To 16:00	0 hrs	Category/Rmks:	: MIRU HYD PUMPING UNIT. PUT WELL TO PRODUCTION BYPASS.
From 16:00 To 16:30	0.5 hrs	Category/Rmks:	: SECURED LOCATION SHUT DOWN FOR THE DAY.

**Date :** 11/20/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. PUMPING TUBING 10PSI,CP=0 PSI, SISC=0PSI,SIICP=0PSI.
From 7:00 To	0 hrs	Category/Rmks:	: 9.8# FLUID,CASING LITE BLOW,TUBING PUMPING 10 PSI,RECOVERY 141.5 BBLs,LOAD 14.987 LBS

**Date :** 11/21/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. PUMPING TUBING 10PSI,CP=0 PSI, SISC=0PSI,SIICP=0PSI.
From 7:00 To	0 hrs	Category/Rmks:	: Oil Rate = 0 BOPD Water Rate = 180 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs  2 7/8" Pressure = 20 psi 7" Pressure = 0 psi (slight blow) Water Weight = 10 ppg Rod Load - 16,000 lbs Total load recovered – 453 bbls (50.8%) Total volume pumped – 891 bbls Total load left to recover - 438 bbls

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/22/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. PUMPING TUBING 10PSI,CP=0 PSI, SISCP=0PSI,SIICP=0PSI.
From 7:00 To	0 hrs	Category/Rmks:	: Oil Rate = 0 BOPD Water Rate = 106 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 5.2 Rod Load – 16,212 lbs 2 7/8" Pressure = 12 psi 7" Pressure = 0 psi (slight blow) Water Weight = 10.2 ppg Total load recovered – 559 bbls (62.7%) Total volume pumped – 891 bbls Total load left to recover - 332 bbls

**Date :** 11/23/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. 0PSI,CP=0 PSI, SISCP=0PSI,SIICP=0PSI.
From 7:00 To	0 hrs	Category/Rmks:	: CASING LITE BLOW, WELL WAS NOT PUMPING ANY FLUID. SHUT THE FLOWLINE VALVE OPENED THE OFF SIDE VALVE BLEW DOWN WITH NO PUMP ACTION. NO FLUID RECOVERY. LOAD 15,700. AT THE CURRENT TIME APPEARS WELL IS PUMPED DRY.
From 0:00 To	0 hrs	Category/Rmks:	: CURRENTLY ACITIVITY FILL AND TEST TUBING WITH VAC TRUCK. PUMP DOWN THE CASING SEE IF PUMP RETURNS TO PUMPING

**Date :** 11/24/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 8:00	1 hrs	Category/Rmks:	: Checked well head pressure 0 psi on the tubing. Blow on the casing. Well not pumping shut unit down. Shot fluid level showing fluid level @ 500'
From 8:00 To 14:00	6 hrs	Category/Rmks:	: Filled tubing with a vac truck pump sucking and blowing. Tired vac truck to casing filled casing with 20 bbls.
From 14:00 To 16:00	2 hrs	Category/Rmks:	: Shot fluid level results not clear. Lined up pump truck for next morning. Shut well in shut down for the day. Lowered rod string to tag bottom bumped bottom several times with no change in pump action. Opened casing was in a vac.

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/25/2013**Activity:** PUMPING**Remarks :** -

From 7:00 To 15:00	8 hrs	Category/Rmks:	: SITP - 0 psi, SICP - 0 psi. Tied pump truck onto casing filled with 4 bbls of fresh water pressured up and opened 1" valve. Well was starting to circulate small amount of oil. (Oil is filling up the 2 7/8" X 7" annulus before we can produce oil regularly). Recovered a sample to send to Damascus. While circulating bumped bottom with pump several times. Shut down pump truck. Well pumping properly. Shut flow line tested pump to 300 psi. Opened flow line spaced pump out. Put well on pump.
From 15:00 To 7:00	16 hrs	Category/Rmks:	: Oil Rate = 0 BOPD Water Rate = 126.9 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 16 hrs SPM – 3.65 Rod Load – 15,375 lbs 2 7/8" Pressure = 20 psi 7" Pressure = 0 psi Water Weight = 10.2 ppg Total load recovered – 692.1 bbls (74.4%) Total volume pumped – 930 bbls Total load left to recover - 237.9 bbls

**Date :** 11/26/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: Pumping well to tanks.
From 7:00 To	0 hrs	Category/Rmks:	: Oil Rate = 0 BOPD Water Rate = 222.6 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 3.6 Rod Load – 15,375 lbs 2 7/8" Pressure = 20 psi 7" Pressure = 0 psi Water Weight = 10.2 ppg Total load recovered – 914.7 bbls (98.4%) Total volume pumped – 930 bbls Total load left to recover - 15.3 bbls

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/27/2013**Activity:** PUMPING**Remarks :** -

From 7:00 To 7:00	24 hrs	Category/Rmks:	: Pumping well to tanks.
From 0:00 To	0 hrs	Category/Rmks:	: Oil Rate = 0 BOPD
			Water Rate = 159.4 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 3.5 Rod Load – 16,107 lbs 2 7/8" Pressure = 20 psi 7" Pressure = 65 psi Water Weight = 10.2 ppg Total load recovered – 1074.1 bbls (115.5%) Total volume pumped – 930 bbls Total load left to recover - -144.1 bbls  Will put well through facilities this afternoon.

**Date :** 11/28/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: Were unable to go through facilities yesterday.
			Oil Rate = 0 BOPD Water Rate = 43.7 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 3.5 Rod Load – 16,447 lbs 2 7/8" Pressure = 18 psi 7" Pressure = 100 psi Water Weight = 10.2 ppg Total load recovered – 1117.8 bbls (120.1%) Total volume pumped – 930 bbls

**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 11/29/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:
		: Oil Rate = 0 BOPD Water Rate = 131 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 3.3 Rod Load – 16,812 lbs 2 7/8" Pressure = 18 psi 7" Pressure = 200 psi Water Weight = 10.2 ppg Total load recovered – 1248.8 bbls (134.2%) Total volume pumped – 930 bbls

**Date :** 11/30/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:
		: Oil Rate = 0 BOPD Water Rate = 116.5 BWPD Gas Rate = N/A Oil Cut = N/A GOR = N/A Time Producing: 24 hrs SPM – 2.9 Rod Load – 17,205 lbs 2 7/8" Pressure = 21 psi 7" Pressure = 180 psi Water Weight = 10.2 ppg Total load recovered – 1365.3 bbls (146.8%) Total volume pumped – 930 bbls  Will circulate wellbore today to see if hydrocarbons are on backside of tubing.



**Southwestern Energy Company**2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032**Daily Activity Report****Date :** 12/1/2013**Activity:** PUMPING**Remarks :**

From 7:00 To 7:00	24 hrs	Category/Rmks:	: Circulated wellbore to check for hydrocarbons. We produced 43.5 bbls of oil. We recovered 430 bbls over load pumped. At best a 10.1% oil cut, probably closer to five percent. Continue pumping well until Monday 12/2 and will move in workover rig and log with pulse neutron log.
			Resumed pumping well at 5 pm MST.
			Oil Rate = 0.5 BOPD Water Rate = 121 BWPD Gas Rate = N/A GOR = N/A Time Producing: 14 hrs SPM – 3.8 Rod Load – 16,700 lbs 2 7/8" Pressure = 18 psi 7" Pressure = 80 psi Water Weight = 9.7 ppg Total load recovered – 1486 bbls (159.8%) Total volume pumped – 930 bbls

**Date :** 12/2/2013**Activity:** Log well**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: HSM. CHECKED WELL HEAD PRESSURE. TUBING=20PSI,SICP= 100 PSI
From 7:30 To 8:00	0.5 hrs	Category/Rmks:	: WELL WAS PUMPING @ 2.86 SPM, WITH A LOAD OF 17,200 LBS, FLUID WEIGHT 10 PPG, GAIN OVERNIGHT 150 BBLs OF WATER, .75 BBL OF OIL, SKIM OF OIL IN THE SAMPLE.
From 8:00 To 9:30	1.5 hrs	Category/Rmks:	: HSM SHUT UNIT DOWN. MIRU CRANE. RD PUMPING UNIT.
From 9:30 To 13:00	3.5 hrs	Category/Rmks:	: WAITED ON WO UNIT
From 13:00 To 14:30	1.5 hrs	Category/Rmks:	: HSM MIRU WO UNIT.
From 14:30 To 15:00	0.5 hrs	Category/Rmks:	: LATCHED ONTO POLISH ROD. UNSEATED PUMP.
From 15:00 To 18:30	3.5 hrs	Category/Rmks:	: LD POLISH ROD AND SUB, 53-1" S-67 RODS,85-7/8" S-67 RODS,35-3/4" S-67 RODS,10-1 1/2" API SINKER BARS,1-STABILIZER SUB, 1-1.75" INSERT PUMP, 20' DIP TUBE.
From 18:30 To 19:00	0.5 hrs	Category/Rmks:	: HSM MIRU ELU
From 19:00 To 22:00	3 hrs	Category/Rmks:	: RIH TO 5760'. PULLED UP TO 5300'. LOGGED FROM 5250'-5080' WITH THE PULSE NEUTRON LOG @ 150' FPH SPEED. THEN INCREASED SPEED TO 30 FPM TO 4600' FOR THE TEMP LOG.
From 22:00 To 2:00	4 hrs	Category/Rmks:	: RIH TO 5300'. LOGGED FROM 5250'-5080' WITH THE PULSE NEUTRON LOG @ 150' FPH SPEED. THEN INCREASED SPEED TO 30 FPM TO 4600' FOR THE TEMP LOG.
From 2:00 To 4:30	2.5 hrs	Category/Rmks:	: RIH TO 5300'. LOGGED FROM 5250'-5080' WITH THE PULSE NEUTRON LOG @ 150' FPH SPEED. THEN INCREASED SPEED TO 30 FPM TO 4600' FOR THE TEMP LOG.
From 4:30 To 7:00	2.5 hrs	Category/Rmks:	: FILLED CASING WITH PRODUCTION WATER. RIH WITH PULSE NEUTRON LOG SET FOR DETECTING UPFLOW AND DOWN FLOW. PUMPED INTO PERFS @ .25BPM. FORWARDED RESULTS TO HOUSTON.
From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: POOH LD EL TOOLS.

**Southwestern Energy Company**

2350 N. Sam Houston Parkway East - Suite 300  
Houston, TX 77032

**Daily Activity Report****Date :** 12/3/2013**Activity:** Log well**Remarks :**

From 7:00 To 7:30	0.5 hrs	Category/Rmks:	: RIH WITH ELINE AND PULSE NEUTRON LOG SET IN UPFLOW AND DOWN FLOW MODE.
From 7:30 To 10:00	2.5 hrs	Category/Rmks:	: LOGGED WHILE PUMPING INTO PERFS @ .25 BPM. AT DEPTHS 5040', 5100', 5140' TO WATCH FOR FLOW BEHIND PIPE. SENT RESULTS TO HOUSTON ENGINEERING.
From 10:00 To 12:00	2 hrs	Category/Rmks:	: SHUT WELL IN RDMO ELU, WO RIG AND EQUIPMENT.
From 12:00 To	hrs	Category/Rmks:	: RELEASED ALL SURFACE EQUIPMENT. SECURED LOCATION SHUT DOWN FOR THE DAY.

**HALLIBURTON**

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# **SOUTHWESTERN ENERGY PROD CO EBUS**

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**SEPCO State 30-23 1-16H  
WILDCAT  
San Juan County , Utah**

**Plug Back  
05-Oct-2013**

**Job Site Documents**

**HALLIBURTON****Cementing Job Summary****The Road to Excellence Starts with Safety**

Sold To #: 346471	Ship To #: 3004148	Quote #:	Sales Order #: 900781552
Customer: SOUTHWESTERN ENERGY PROD CO EBUS		Customer Rep: Burke, Sean	
Well Name: SEPCO State		Well #: 30-23 1-16H	API/UWI #: 43-037-50040
Field: WILDCAT	City (SAP): MOAB	County/Parish: San Juan	State: Utah
Lat: N 38.173 deg. OR N 38 deg. 10 min. 21.864 secs.		Long: W 109.396 deg. OR W -110 deg. 36 min. 14.724 secs.	
Contractor: WORK OVER		Rig/Platform Name/Num: Workover	
Job Purpose: Plug Back			
Well Type: Development Well		Job Type: Plug Back	
Sales Person: EVANS, MATTHEW		Srvc Supervisor: KEANE, JOHN	MBU ID Emp #: 486519

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
BANKS, BRENT A	4.5	371353	KEANE, JOHN Donovon	4.5	486519	SMITH, DUSTIN Michael	4.5	418015

**Equipment**

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10248057	145 mile	10616651C	145 mile	11259881	145 mile	11808827	145 mile

**Job Hours**

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
10/05/2013	4.5	1						

**TOTAL** *Total is the sum of each column separately***Job**

Formation Name	Top	Bottom	Called Out	Date	Time	Time Zone
Formation Depth (MD)			On Location	05 - Oct - 2013	11:20	MST
Form Type	BHST		Job Started	05 - Oct - 2013	13:56	MST
Job depth MD	8102. ft		Job Completed	05 - Oct - 2013	14:36	GMT
Water Depth	Wk Ht Above Floor		Departed Loc	05 - Oct - 2013	16:15	MST
Perforation Depth (MD)	From	To				

**Well Data**

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
CBP	Unknown							8100.	8100.		
7" Production Casing	Unknown		7.	6.094	32.		P-110	.	8100.		
Tubing	Unknown		2.875	1.995	6.4			.	8102		

**Tools and Accessories**

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

**Miscellaneous Materials**

Gelling Agt	Conc	Surfactant	Conc	Acid Type	Qty	Conc	%
Treatment Fld	Conc	Inhibitor	Conc	Sand Type	Size	Qty	

**Fluid Data**

Stage/Plug #: 1											
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft3/sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk		

**Stage/Plug #: 1**

Summit Version: 7.3.0106

Monday, December 16, 2013 07:47:00

**RECEIVED:** Dec. 16, 2013

**HALLIBURTON****Cementing Job Summary**

Stage/Plug #: 1										
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk	
1	Fresh Water		10.00	bbl	8.33	.0	.0	2		
2	PlugCem Tail Cement	PLUGCEM (TM) SYSTEM (452969)	50.0	sacks	15.8	1.15	4.98	2	4.98	
0.2 %		HR-5, 50 LB SK (100005050)								
4.98 Gal		FRESH WATER								
3	Fresh Water		2.00	bbl	8.33	.0	.0	2		
4	Brine		44.00	bbl	8.5	.0	.0	4		
Calculated Values		Pressures		Volumes						
Displacement	43.9	Shut In: Instant		Lost Returns		Cement Slurry	5.3	Pad		
Top Of Cement		5 Min		Cement Returns		Actual Displacement	43.9	Treatment		
Frac Gradient		15 Min		Spacers	12	Load and Breakdown		Total Job	61	
Rates										
Circulating	2	Mixing		2	Displacement	4	Avg. Job	3		
Cement Left In Pipe	Amount	0 ft	Reason							
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID			
The Information Stated Herein Is Correct				Customer Representative Signature						

**HALLIBURTON***Cementing Job Log***The Road to Excellence Starts with Safety**

<b>Sold To #:</b> 346471	<b>Ship To #:</b> 3004148	<b>Quote #:</b>	<b>Sales Order #:</b> 900781552
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS		<b>Customer Rep:</b> Burke, Sean	
<b>Well Name:</b> SEPCO State		<b>Well #:</b> 30-23 1-16H	<b>API/UWI #:</b> 43-037-50040
<b>Field:</b> WILDCAT	<b>City (SAP):</b> MOAB	<b>County/Parish:</b> San Juan	<b>State:</b> Utah
<b>Legal Description:</b>			
<b>Lat:</b> N 38.173 deg. OR N 38 deg. 10 min. 21.864 secs.		<b>Long:</b> W 109.396 deg. OR W -110 deg. 36 min. 14.724 secs.	
<b>Contractor:</b> WORK OVER		<b>Rig/Platform Name/Num:</b> Workover	
<b>Job Purpose:</b> Plug Back			<b>Ticket Amount:</b>
<b>Well Type:</b> Development Well		<b>Job Type:</b> Plug Back	
<b>Sales Person:</b> EVANS, MATTHEW		<b>Srvc Supervisor:</b> KEANE, JOHN	<b>MBU ID Emp #:</b> 486519

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	10/05/2013 06:00							
Pre-Convoy Safety Meeting	10/05/2013 08:45							WITH HES
Arrive At Loc	10/05/2013 12:05							RIG RUNNING IN HOLE WITH TUBING UPON HES ARRIVAL
Assessment Of Location Safety Meeting	10/05/2013 12:15							WITH HES
Pre-Rig Up Safety Meeting	10/05/2013 12:30							WITH HES
Rig-Up Equipment	10/05/2013 12:40							
Pre-Job Safety Meeting	10/05/2013 13:25							WITH HES, SOUTHWESTERN, AND BASIC ENERGY SERVICES
Start Job	10/05/2013 13:56							TUBING 2.875 6.4LB/FT RAN TO 8102 FT, CSG 7 IN 32 LB/FT P-110, WELL FLUID 9.6 LB/GAL BRINE
Pump Well Fluid	10/05/2013 13:57		2	2			360.0	FILL LINES WITH 9.6 LB/GAL BRINE
Test Lines	10/05/2013 13:59							LOW TEST AT 1670 PSI, HIGH TEST AT 2991 PSI, PRESSURE HOLDING
Pump Well Fluid	10/05/2013 14:03		2	3			389.0	9.6 LB/GAL BRINE, CIRCULATED THE WELL, CIRCULATION ESTABLISHED
Pump Spacer	10/05/2013 14:05		2	10			480.0	FRESH WATER SPACER AHEAD
Activity Description	Date/Time	Cht	Rate bbl/ min	Volume bbl		Pressure psig		Comments

Sold To #: 346471

Ship To #: 3004148

Quote #:

Sales Order #: 900781552

SUMMIT Version: 7.3.0106

Monday, December 16, 2013 07:47:00

RECEIVED: Dec. 16, 2013

**HALLIBURTON*****Cementing Job Log***

		#		Stage	Total	Tubing	Casing	
Pump Cement	10/05/2013 14:14		2	5.3			489.0	MIXED AT 15.8 LB/GAL, 50 SKS, 1.15 FT3/SK, 4.98 GAL/SK, DENSITY VERIFIED USING PRESSURIZED MUD SCALES
Pump Spacer	10/05/2013 14:17		2	2.1			280.0	FRESH WATER BEHIND
Pump Well Fluid	10/05/2013 14:18		4	43.9			680.0	9.6 LB/GAL BRINE
Shutdown	10/05/2013 14:32			43.9			558.0	SHUT DOWN AT CALCULATED DISPLACEMENT, 43.9 BBL AWAY
Comment	10/05/2013 14:35							RIG PULLED 500 FT OF TUBING, RIG REVERSE CIRCULATING THE WELL WITH DIESEL OIL
End Job	10/05/2013 14:36							GOOD CIRCULATION THROUGHOUT THE JOB, NO ADD HOURS CHARGED, NO DERRICK CHARGE, RIG USED NO SUGAR, WITH HES
Pre-Rig Down Safety Meeting	10/05/2013 14:45							
Rig-Down Equipment	10/05/2013 15:00							
Pre-Convoy Safety Meeting	10/05/2013 16:00							WITH HES
Crew Leave Location	10/05/2013 16:15							
Comment	10/05/2013 16:16							THANKS FOR USING HALLIBURTON, JOHN KEANE AND CREW

Sold To #: 346471

Ship To #: 3004148

Quote #:

Sales Order #: 900781552

SUMMIT Version: 7.3.0106

Monday, December 16, 2013 07:47:00

RECEIVED: Dec. 16, 2013

**HALLIBURTON**

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# **SOUTHWESTERN ENERGY PROD CO EBUS**

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**SEPCO State 30-23 1-16H  
WILDCAT  
San Juan County , Utah**

**Plug Back  
08-Nov-2013**

**Post Job Report**



**HALLIBURTON****Cementing Job Summary****The Road to Excellence Starts with Safety**

<b>Sold To #:</b> 346471		<b>Ship To #:</b> 3004148		<b>Quote #:</b>		<b>Sales Order #:</b> 900879570	
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS				<b>Customer Rep:</b> PARISH, SAM			
<b>Well Name:</b> SEPCO State			<b>Well #:</b> 30-23 1-16H			<b>API/UWI #:</b> 43-037-50040	
<b>Field:</b> WILDCAT		<b>City (SAP):</b> MOAB		<b>County/Parish:</b> San Juan		<b>State:</b> Utah	
<b>Legal Description:</b> Section 16 Township 30S Range 23E							
<b>Lat:</b> N 38.173 deg. OR N 38 deg. 10 min. 21.864 secs.				<b>Long:</b> W 109.396 deg. OR W -110 deg. 36 min. 14.724 secs.			
<b>Contractor:</b> WORK OVER			<b>Rig/Platform Name/Num:</b> Workover				
<b>Job Purpose:</b> Plug Back							
<b>Well Type:</b> Development Well			<b>Job Type:</b> Plug Back				
<b>Sales Person:</b> EVANS, MATTHEW			<b>Srvc Supervisor:</b> JAMISON, PRICE			<b>MBU ID Emp #:</b> 229155	

**Job Personnel**

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
ATKINSON, STEPHAN Michael	7.5	513940	ETCITY, JERRY	7.5	227876	JAMISON, PRICE W	7.5	229155
LANDON, JASON L	7.5	496391						

**Equipment**

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10297346	145 mile	10973571	145 mile	11223557	145 mile	11259886	145 mile

**Job Hours**

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
11/7/13	3.5	1	11/8/13	4				

**TOTAL** Total is the sum of each column separately**Job**

Formation Name					<b>Job Times</b>			
Formation Depth (MD)	Top	Bottom			Called Out	Date	Time	Time Zone
Form Type	BHST				On Location	07 - Nov - 2013	01:00	MST
Job depth MD	8100. ft		Job Depth TVD		Job Started	07 - Nov - 2013	09:00	MST
Water Depth	Wk Ht Above Floor				Job Completed	07 - Nov - 2013	10:41	MST
Perforation Depth (MD)	From	To			Deparated Loc	08 - Nov - 2013	12:54	MST

**Well Data**

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
CBP	Unknown							8100.	8100.		
Cement Plug								6000.	6100.		
7" Production Casing	Unknown		7.	6.094	32.		P-110	.	8100.		
Tubing	Unknown		2.375	1.995	4.6			.	8100.		

**Tools and Accessories**

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

**Miscellaneous Materials**

<b>Gelling Agt</b>		<b>Conc</b>		<b>Surfactant</b>		<b>Conc</b>		<b>Acid Type</b>		<b>Qty</b>		<b>Conc</b>	<b>%</b>
<b>Treatment Fld</b>		<b>Conc</b>		<b>Inhibitor</b>		<b>Conc</b>		<b>Sand Type</b>		<b>Size</b>		<b>Qty</b>	

**Fluid Data****Stage/Plug #: 1**

**HALLIBURTON****Cementing Job Summary**

Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft <sup>3</sup> /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
1	Fresh Water		25.00	bbl	8.4	.0	.0	2.0	
2	Class G Cement	PLUGCEM (TM) SYSTEM (452969)	40.0	sacks	15.8	1.15	4.98	2.0	4.98
3	Fresh Water		4.00	bbl	8.33	.0	.0	2.0	
4	Kcl Water Displacement		37.8	bbl	.	.0	.0	2.0	
<b>Stage/Plug #: 2</b>									
Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density uom	Yield uom	Mix Fluid uom	Rate uom	Total Mix Fluid uom
1	Fresh Water		20.00	bbl	8.34	.0	.0	2.0	
2	Class G Cement	PLUGCEM (TM) SYSTEM (452969)	40.0	sacks	15.8	1.15	4.98	2.0	4.98
3	Fresh Water		4.00	bbl	8.34	.0	.0	2.0	
4	Kcl Water Displacement		30.5	bbl	8.5	.0	.0	2.0	
<b>Calculated Values</b>		<b>Pressures</b>		<b>Volumes</b>					
Displacement		Shut In: Instant		Lost Returns	no	Cement Slurry	16.4	Pad	
Top Of Cement	5841	5 Min		Cement Returns	no	Actual Displacement		Treatment	
Frac Gradient		15 Min		Spacers	45	Load and Breakdown		Total Job	
<b>Rates</b>									
Circulating	rig	Mixing	2	Displacement	2	Avg. Job	2		
Cement Left In Pipe	Amount	0 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID		
The Information Stated Herein Is Correct				Customer Representative Signature					

**HALLIBURTON***Cementing Job Log***The Road to Excellence Starts with Safety**

<b>Sold To #:</b> 346471	<b>Ship To #:</b> 3004148	<b>Quote #:</b>	<b>Sales Order #:</b> 900879570
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS		<b>Customer Rep:</b> PARISH, SAM	
<b>Well Name:</b> SEPCO State		<b>Well #:</b> 30-23 1-16H	<b>API/UWI #:</b> 43-037-50040
<b>Field:</b> WILDCAT	<b>City (SAP):</b> MOAB	<b>County/Parish:</b> San Juan	<b>State:</b> Utah
<b>Legal Description:</b> Section 16 Township 30S Range 23E			
<b>Lat:</b> N 38.173 deg. OR N 38 deg. 10 min. 21.864 secs.		<b>Long:</b> W 109.396 deg. OR W -110 deg. 36 min. 14.724 secs.	
<b>Contractor:</b> WORK OVER		<b>Rig/Platform Name/Num:</b> Workover	
<b>Job Purpose:</b> Plug Back			<b>Ticket Amount:</b>
<b>Well Type:</b> Development Well		<b>Job Type:</b> Plug Back	
<b>Sales Person:</b> EVANS, MATTHEW		<b>Srvc Supervisor:</b> JAMISON, PRICE	<b>MBU ID Emp #:</b> 229155

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Call Out	11/07/2013 01:00							2.875 TUBING SET IN SIDE 7 IN 32 CASING TUBING SET @ 7320 BRIDGE PLUG SET @ 7327
Depart Yard Safety Meeting	11/07/2013 01:50							CALCULATED TOC TUBING IN 6487 TOC TUBING OUT 7093
Crew Leave Yard	11/07/2013 02:00							
Arrive At Loc	11/07/2013 09:00							
Assessment Of Location Safety Meeting	11/07/2013 09:10							
Pre-Rig Up Safety Meeting	11/07/2013 09:20							
Pre-Job Safety Meeting	11/07/2013 10:00							
Start Job	11/07/2013 10:41							
Prime Pumps	11/07/2013 10:43		2	25		403.0		FRESH WATER
Test Lines	11/07/2013 10:58						3000. 0	
Pump Cement	11/07/2013 11:15		2	8.2		198.0		MIXED @ 15.8 PPG YIELD 1.15 WAT/REQ 4.98 40 SKS
Pump Displacement	11/07/2013 11:20		2	42		200.0		PUMP 5 BBL FRESH WATER 37 KCL WATER
Shutdown	11/07/2013 11:42							
End Job	11/07/2013 11:44							RIG PULLED TUBING OUT OF WELL ALL CLEAN & DRY

Sold To #: 346471

Ship To #: 3004148

Quote #:

Sales Order #: 900879570

SUMMIT Version: 7.3.0106

Tuesday, December 03, 2013 02:54:00

RECEIVED: Dec. 16, 2013

**HALLIBURTON***Cementing Job Log*

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Depart Location Safety Meeting	11/07/2013 12:50							
Post-Job Safety Meeting (Pre Rig-Down)	11/07/2013 12:50							GOOD CIRCULATION THROUGHOUT JOB
Crew Leave Location	11/07/2013 13:00							THANKS FOR USING HALLIBURTON BILL JAMISON & CREW
Call Out	11/08/2013 09:00							PLUG BACK # 2 TUBING SET @ 6083 IN 7 IN 32# CASING TUBING 2.875 6.5# BRIDGE PLUG SET @ 6089
Depart Yard Safety Meeting	11/08/2013 10:25							
Crew Leave Yard	11/08/2013 10:30							
Arrive At Loc	11/08/2013 11:00							
Assessment Of Location Safety Meeting	11/08/2013 11:15							
Pre-Rig Up Safety Meeting	11/08/2013 11:20							
Pre-Job Safety Meeting	11/08/2013 11:40							
Start Job	11/08/2013 12:05							
Prime Pumps	11/08/2013 12:05		2	3		202.0		FRESH WATER
Test Lines	11/08/2013 12:08						3000.0	
Pump Water	11/08/2013 12:22		2	17		202.0		FRESH WATER
Pump Cement	11/08/2013 12:31		2	8.2		130.0		MIXED @ 15.8 PPG YIELD 1.15 WAT/REQ 4.98 40 SKS
Pump Displacement	11/08/2013 12:34		2	34.5		230.0		4 BBLS FRESH WATER 30.5 BBLS KCL WATER
Shutdown	11/08/2013 12:52							GOOD CIRCULATION THOUGHOUT JOB
End Job	11/08/2013 12:54							CALCULATED TOC TUBING IN 5841 TUBING OUT 5856
Post-Job Safety Meeting (Pre Rig-Down)	11/08/2013 13:00							RIG PULLED ALL TUBING OUT OF WELL CLEAN & DRY
Depart Location Safety Meeting	11/08/2013 13:50							

Sold To #: 346471

Ship To #: 3004148

Quote #:

Sales Order #: 900879570

SUMMIT Version: 7.3.0106

Tuesday, December 03, 2013 02:54:00

RECEIVED: Dec. 16, 2013

**HALLIBURTON***Cementing Job Log*

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Crew Leave Location	11/08/2013 14:00							THANKS FOR USING HALLIBURTON BILL JAMISON & CREW

Sold To #: 346471

Ship To #: 3004148

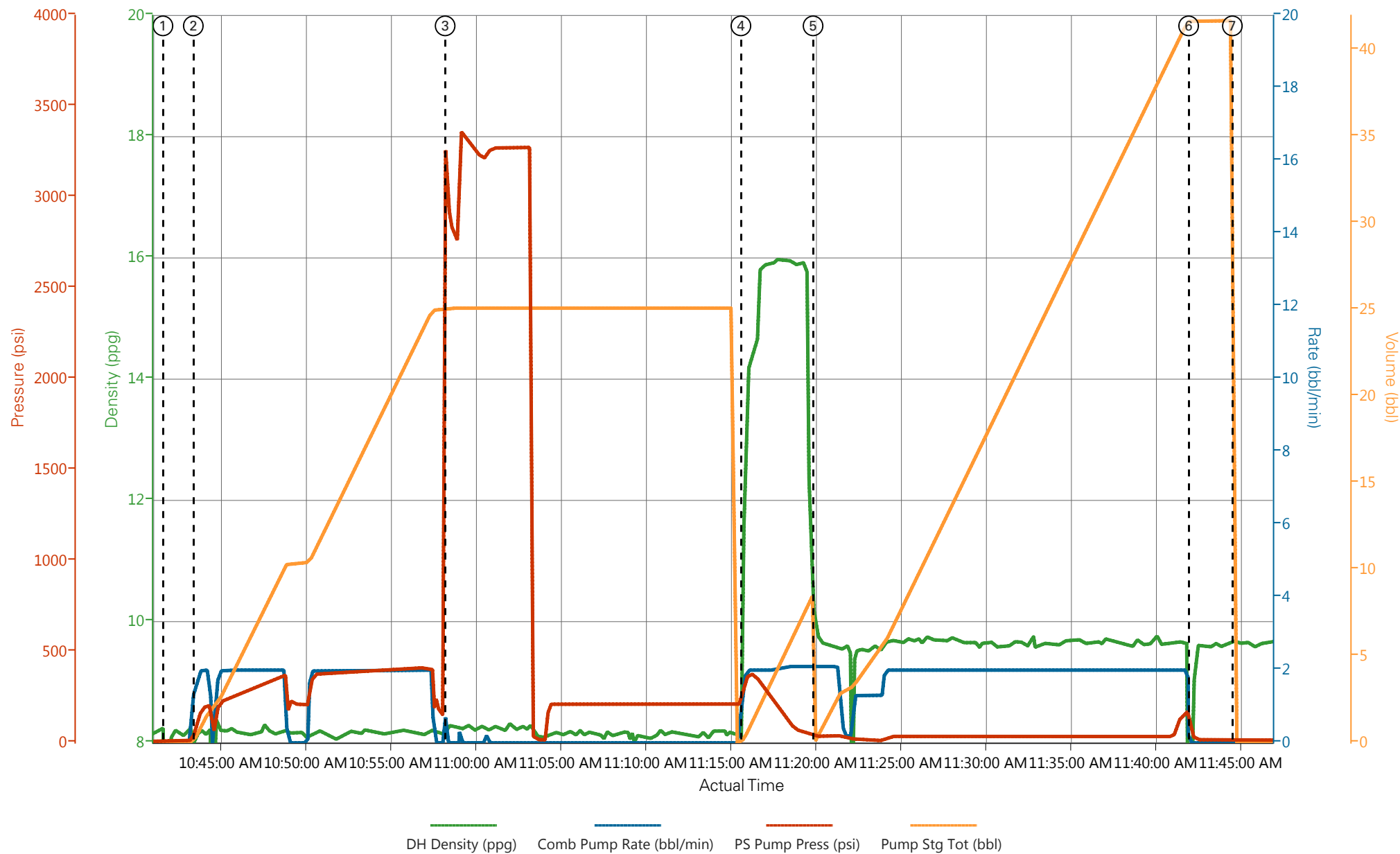
Quote #:

Sales Order #: 900879570

SUMMIT Version: 7.3.0106

Tuesday, December 03, 2013 02:54:00

**RECEIVED:** Dec. 16, 2013



① Start Job 0.67;0;9;0    ③ Test Lines 8.32;0;2954;25.1    ⑤ Pump Displacement 9.73;2.1;39;0    ⑦ End Job 9.67;0;15;0  
② Prime Pumps 8.21;1.7;97;0.4    ④ Pump Cement 11.81;1.5;300;0.3    ⑥ Shutdown 1.89;0;48;41.7

▼ **HALLIBURTON** | iCem® Service

Created: 2013-11-07 10:23:09, Version: 2.0.606

Edit

Customer: SOUTHWESTERN ENERGY PROD CO  
EBUS

Job Date: 11/7/2013 10:27:08 AM

Well: SEPCO STATE

Representative: BILL JAMISON

Sales Order #: 900879570



# Water Analysis Report

**Company:** SOUTHWESTERN

**Submitted by:** BILL JAMISON

**Attention:** JUSTIN KIDDO

**Lease** SEPCO STATE

**Well #** 30-23 1-16H

**Date:** 11/7/2013

**Date Rec.:** 11/7/2013

**S.O.#** 900879570

**Job Type:** PLUG BACK

<b>Specific Gravity</b>	<b><i>MAX</i></b>	<b>1</b>
<b>pH</b>	<b>8</b>	<b>7</b>
<b>Potassium (K)</b>	<b><i>5000</i></b>	<b>700</b> Mg / L
<b>Calcium (Ca)</b>	<b><i>500</i></b>	<b>120</b> Mg / L
<b>Iron (FE2)</b>	<b><i>300</i></b>	<b>0</b> Mg / L
<b>Chlorides (Cl)</b>	<b><i>3000</i></b>	<b>0</b> Mg / L
<b>Sulfates (SO<sub>4</sub>)</b>	<b><i>1500</i></b>	<b>&lt;200</b> Mg / L
<b>Chlorine (Cl<sub>2</sub>)</b>		<b>0</b> Mg / L
<b>Temp</b>	<b><i>40-80</i></b>	<b>50</b> Deg
<b>Total Dissolved Solids</b>		<b>130</b> Mg / L

**Respectfully:** BILL JAMISON

**Title:** CEMENTING SUPERVISOR

**Location:** Grand Junction, CO

NOTICE: This report is limited to the described sample tested. Any person using or relying on this report agrees that Halliburton shall not be liable for any loss or damage whether due to act or omission resulting from such report or

**HALLIBURTON****CUSTOMER SURVEY**

<b>Sales Order #:</b> 900879570	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 11/8/2013
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS		<b>Job Type (BOM):</b> CMT PLUG BACK BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 43-037-50040
<b>Well Name:</b> SEPCO State		<b>Well Number:</b> 30-23 1-16H
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Utah	<b>Well County:</b> San Juan

Dear Customer,

We hope that you were satisfied with the service quality of this job performed by Halliburton. It is the aim of our management and service personnel to deliver equipment and service of a standard unmatched in the service sector of the energy industry.

Please take the time to let us know if our performance met with your satisfaction. Please be as critical as possible to ensure we constantly improve our service. Your comments are of great value to us and are intended for the exclusive use of Halliburton.

**CUSTOMER SATISFACTION  
SURVEY**

CATEGORY	CUSTOMER SATISFACTION RESPONSE	
Survey Conducted Date	The date the survey was conducted	11/8/2013
Survey Interviewer	The survey interviewer is the person who initiated the survey.	PRICE JAMISON (HAL9235)
Customer Participation	Did the customer participate in this survey? (Y/N)	No
Customer Representative	Enter the Customer representative name	
HSE	Was our HSE performance satisfactory? Circle Y or N	
Equipment	Were you satisfied with our Equipment? Circle Y or N	
Personnel	Were you satisfied with our people? Circle Y or N	
Customer Comment	Customer's Comment	

**CUSTOMER SIGNATURE**



**HALLIBURTON****CUSTOMER SURVEY**

<b>Sales Order #:</b> 900879570	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 11/8/2013
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS		<b>Job Type (BOM):</b> CMT PLUG BACK BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 43-037-50040
<b>Well Name:</b> SEPCO State		<b>Well Number:</b> 30-23 1-16H
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Utah	<b>Well County:</b> San Juan

*KEY PERFORMANCE INDICATORS*

General	
<b>Survey Conducted Date</b>	11/8/2013
The date the survey was conducted	

Cementing KPI Survey	
<b>Type of Job</b>	0
Select the type of job. (Cementing or Non-Cementing)	
<b>Select the Maximum Deviation range for this Job</b>	Vertical
What is the highest deviation for the job you just completed? This may not be the maximum well deviation.	
<b>Total Operating Time (hours)</b>	6
Total Operating Hours Including Rig-up, Pumping, Rig-down. Enter in decimal format.	
<b>HSE Incident, Accident, Injury</b>	No
HSE Incident, Accident, Injury. This should be recordable incidents only.	
<b>Was the job purpose achieved?</b>	Yes
Was the job delivered correctly as per customer agreed design?	
<b>Operating Hours (Pumping Hours)</b>	2
Total number of hours pumping fluid on this job. Enter in decimal format.	
<b>Customer Non-Productive Rig Time (hrs)</b>	0
Lost time due to Halliburton in the start, execution, or completion of an ordered service or product, or delays in a follow-on service. Enter in decimal format. 0 if none.	
<b>Type of Rig Classification Job Was Performed</b>	Workover
Type Of Rig (classification) Job Was Performed On	
<b>Number Of JSAs Performed</b>	5
Number Of Jsas Performed	
<b>Number of Unplanned Shutdowns</b>	0
Unplanned shutdown is when injection stops for any period of time.	
<b>Was this a Primary Cement Job (Yes / No)</b>	No

**HALLIBURTON****CUSTOMER SURVEY**

<b>Sales Order #:</b> 900879570	<b>Line Item:</b> 10	<b>Survey Conducted Date:</b> 11/8/2013
<b>Customer:</b> SOUTHWESTERN ENERGY PROD CO EBUS		<b>Job Type (BOM):</b> CMT PLUG BACK BOM
<b>Customer Representative:</b>		<b>API / UWI: (leave blank if unknown)</b> 43-037-50040
<b>Well Name:</b> SEPCO State		<b>Well Number:</b> 30-23 1-16H
<b>Well Type:</b> Development Well	<b>Well Country:</b> United States of America	
<b>H2S Present:</b>	<b>Well State:</b> Utah	<b>Well County:</b> San Juan

Primary Cement Job= Casing job, Liner job, or Tie-back job.	
<b>Was this a Plug or a Squeeze Job?</b> Please select the appropriate choice	Yes
<b>Was this a Primary or a Remedial Job?</b> Kick off plug, Plug to Abandon, LCM plug or Planned Liner Top Squeeze, Squeeze of existing perforations, Squeeze of casing leak	No
<b>Mixing Density of Job Stayed in Designed Density Range (0-100%)</b> Density Range defined as +/- .20 ppg. Calculation: Total BBLs cement mixed at designed density divided by total BBLs of cement multiplied by 100	98
<b>Was Automated Density Control Used?</b> Was Automated Density Control (ADC) Used ?	Yes
<b>Pump Rate (percent) of Job Stayed At Designed Pump Rate</b> Pump Rate range defined as +/- 1bbl/min. Calculation: Total BBLs of fluid pumped at the designed rate divided by Total BBLs of fluid pumped, multiplied by 100	98
<b>Nbr of Remedial Sqz Jobs Rqd - Competition</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By Competition	0
<b>Nbr of Remedial Plug Jobs Rqd - HES</b> Number Of Remedial Plug Jobs Needed After Primary Plug Pumped By HES	0
<b>Nbr of Remedial Sqz Jobs Rqd - HES</b> Number Of Remedial Squeeze Jobs Required After Primary Job Performed By HES	0



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Suite 125  
Houston, Texas 77032  
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## SEPCO STATE 30-23 1-16H

### P&A PROCEDURE

**A F E # 1 0 0 2 3 0 7**

Proc. Date: 12/10/2013

796' FSL & 412' FEL  
Sec. 16, T30S, R23W  
San Juan County, UT  
Paradox

MD: 10,105' LL: 1900'  
TVD: 7,920'  
PBSD: 6089' MD Float Collar

**API#: 43-037-50040-0000**  
KB/GL: 22'  
GL: 5877'

## Objective

- < Plugback & abandon wellbore
- < Reclaim location & return to its original state

## Current Wellbore Condition

The well was originally drilled as a horizontal targeting the Cane Creek Interval (Paradox Clastic #21). The horizontal was completed in two phase. The Cane Creek interval was determined to be non-commercial and the lateral section of the wellbore was plugged back. The wellbore was then recompleted in the Clastic Intervals #19 & #9. Both intervals were determined to be non-commercial. Each of the intervals was plugged back and the well was recompleted in the Gothic intervals.

## Casing & Tubing

Surf. Csg: 13-3/8" 54.5# J-55 set @ 1800' MD  
Int. Csg: 9 5/8" 40# P110 set @ 5442' MD  
Prod Csg: 7" 32# P110 set @ 10,043' MD

## Tubular Capacities

13-3/8" 54# J-55	Burst: 2730-psi			
9 5/8" # HCP110	ID: 8.835"	Drift: 8.679"	3.1847 gal/ft	0.0758 bbl/ft
	Burst: 6820 psi	80% Burst: 5456 psi		
7" 32# P110 GBCD	ID: 6.094"	Drift: 5.969"	1.5152 gal/ft	0.0360 bbl/ft
	Burst: 12,460 psi	80% Burst: 9,968 psi		
2 7/8" 6.5# L80 EUE	ID: 2.441	Drift: 2.347	0.2431 gal/ft	0.00579 bbl/ft
	Burst: 10,570 psi	80% Burst: 8,456 psi		
2 7/8" 8.7# P110 PH6	ID: 2.259	Drift: 2.165	0.2082 gal/ft	0.004957 bbl/ft
	Burst: 20,620 psi	80% Burst: 16,496 psi		





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## **NOTE:**

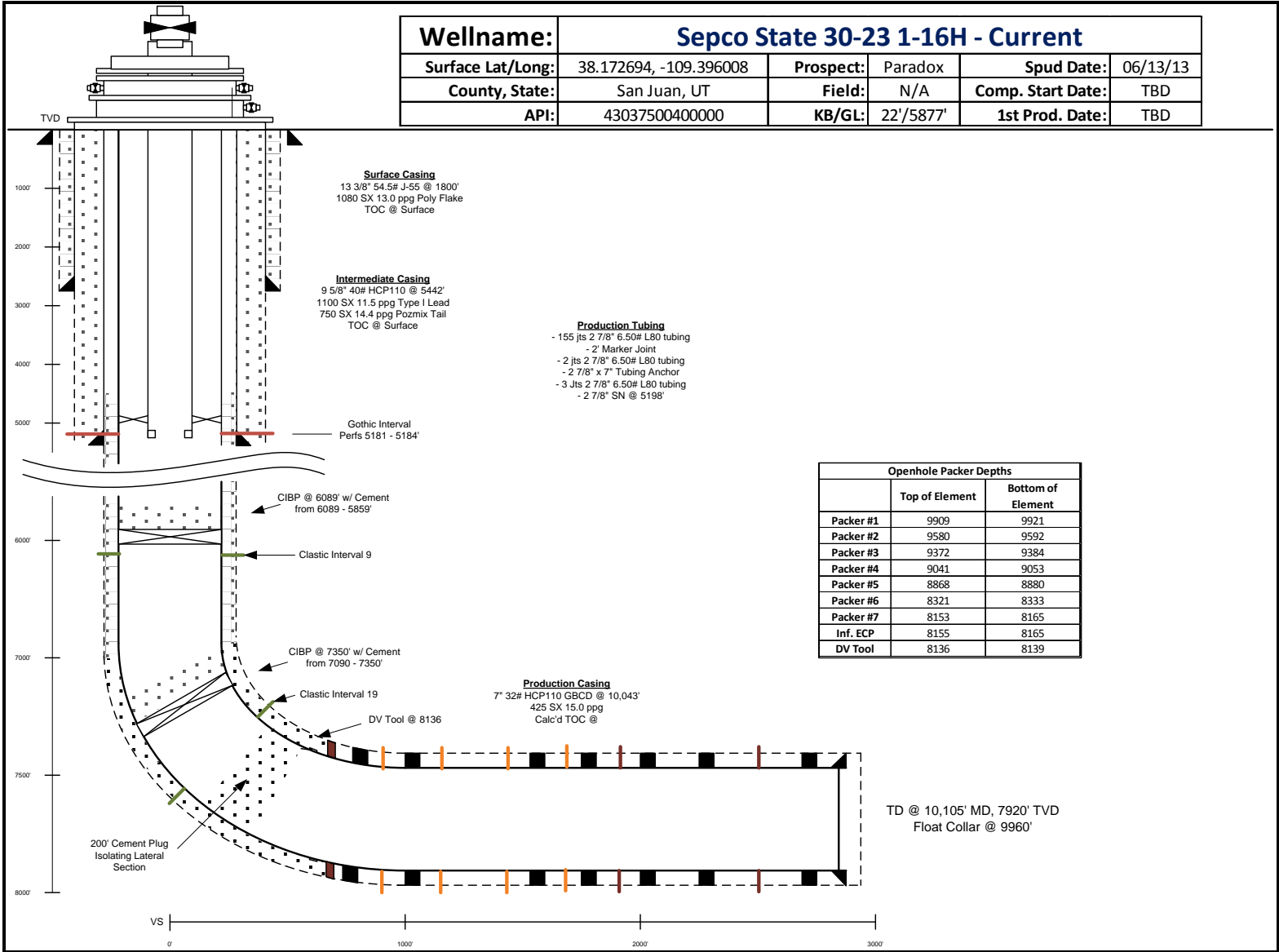
Modifications of this procedure may be necessary as the job progresses. All changes need to be approved by Engineering.

HSE is the top priority. All service personnel need to be familiar with SEECO HSE policies and practices. Safety meetings should be held prior to any and all work being performed, before each stimulation stage, and noted on the daily reports.

Well control and overall work safety is imperative. In order to assure a safe working environment, the SWN well site supervisor must provide safe and effective leadership, and exercise good judgment. If at any time the WSS feels that a situation is inordinately dangerous and additional measures are required, the WSS will stop the job and confer with the SWN Completion Foreman or the SWN Completion Superintendent before proceeding. Compromising the control of a well or causing unauthorized releases of fluids to the environment is not acceptable. The SWN WSS is responsible for the safe management of the well and location at all times. Unless otherwise authorized by the SWN Completion Foreman, never begin operations without proper onsite supervision. The SWN WSS supervisor should be the first to arrive on location. When the WSS is confident all potential hazards have been secured, he will be the last to leave location.



The Right People doing the Right Things,  
wisely investing the cash flow from our  
underlying Assets, will create Value+®



R<sup>2</sup>  
A  
V<sup>+</sup>



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## Wellbore Plugging Procedure

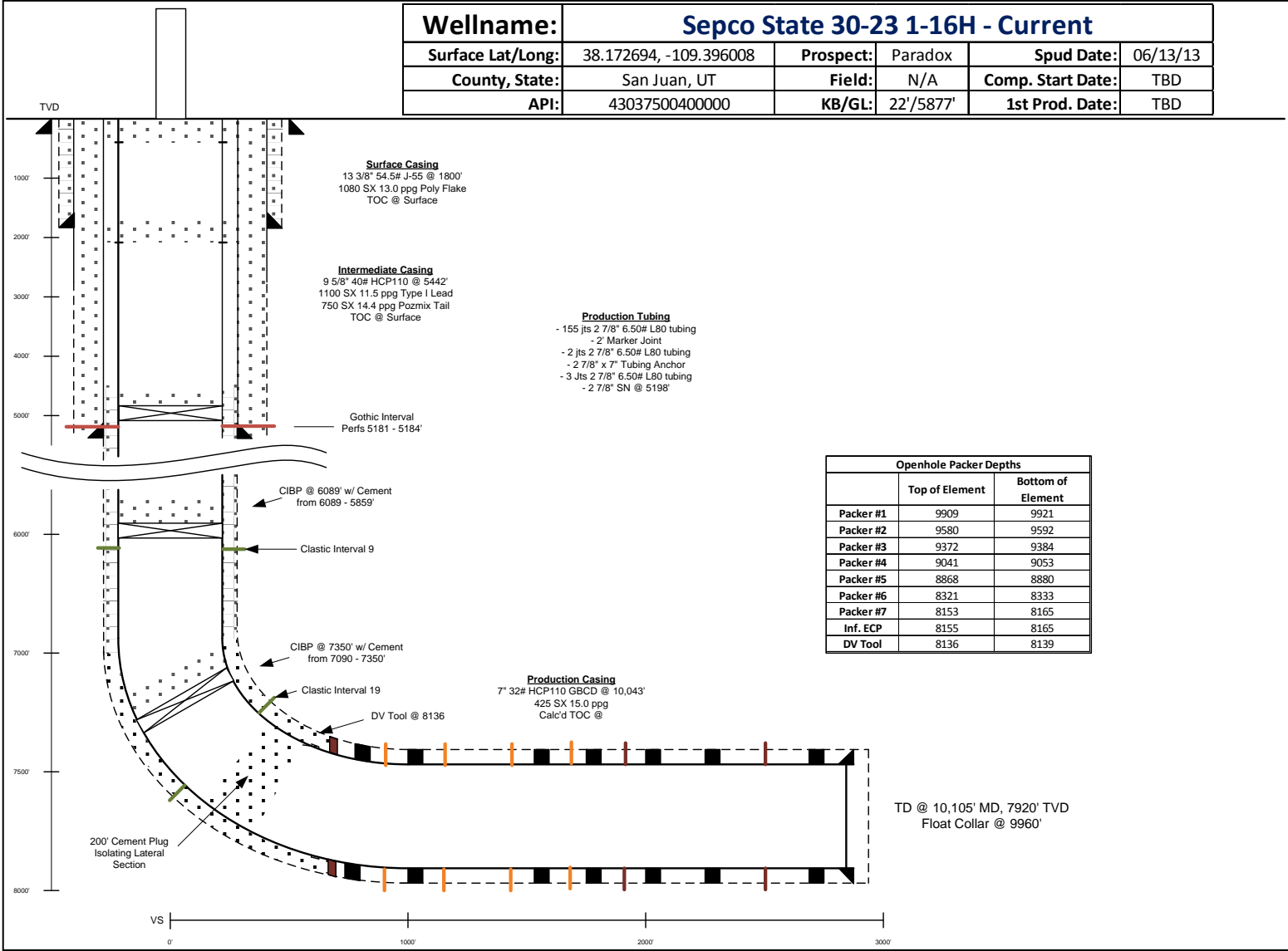
1. **Hold pre-job safety meeting before each operation. Ensure all applicable PPE is available, in proper working order, and used as required.**
2. MIRU workover unit, 500 Hp 5K rig pump, & mud tank w/ HP iron. Spot duck ponds/spill containment underneath fluid pump.
3. Check shut-in casing & tubing pressures on wellhead. Ensure well is dead and stable prior to proceeding.
4. Remove TIW valve from tubing stub. Install pup jt and collar on tubing stub. Latch onto tubing.
5. Remove cover plate and packing from slip flange adapter. Pick up on tubing and remove slips from adapter.
6. Lower tubing into neutral position and rotate 7 – 10 turns to the right to release tubing anchor.
7. ND slip flange adapter and strip off of wellhead. NU 7 1/16" 5K dual ram BOP's w/ blind rams on bottom and 2 7/8" pipe rams on top (Ensure BOP's have flanged bottom to NU to the DSA on the wellhead).
8. TOOH w/ 2 7/8" production tubing while standing back. LD tubing marker jt, tubing anchor, and & SN.
9. PUMU 7" CIBP & mechanical setting tool. TIH and set CIBP @ 5150'. TOOH while standing back. LD setting tool.
10. Load hole w/ 10.0 ppg brine and pressure test CIBP to 1000 psi.
11. TIH open ended and tag up on CIBP @ 5150'. Pick up 1 – 2' off of plug. MIRU cement truck. Spot 30 sx (6.3 bbls @ 1.18 cf/sk yield) of 15.6 ppg Class H cement from 4975' – 5150'.
12. TOOH while standing back.
13. MIRU ELU. Pick up 1' gun loaded w/ four RTG-1562-453 circulation charges. RIH and perforate circulation holes @ 1902'. POOH. RD ELU.
14. TIH w/ 2 7/8" workstring. Spot 200' in/200' out cement plug from 1702' – 1902' (65 sks of 15.6 ppg Class H cement, 1.18 cf/sk) while taking returns up the 9 5/8" annulus.
15. TOOH w/ workstring while laying down.
16. RU ELU. Pick up 1' gun loaded w/ four RTG-1562-453 circulation charges. RIH and perforate circulation holes @ 100'. POOH. RD ELU.
17. TIH w/ 2 7/8" workstring. Spot 100' in/100' out cement plug from 0 – 100' (30 sks of 15.6 ppg Class H cement, 1.18 cf/sk) while taking returns up the 9 5/8" annulus.
18. LD remainder of workstring.
19. Dig out around wellhead. Cut off wellhead at least 3' below ground level and weld on abandonment cap.
20. Install well marker consisting of 4" x 10' pipe with 4' of pipe above ground level and 6' embedded in cement. Ensure marker has well number, location, and lease name stenciled into it.



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## Site Reclamation Procedure

1. **Hold pre-job safety meeting before each operation. Ensure all applicable PPE is available, in proper working order, and used as required.**
2. Vacuum all flowlines dry. Excavate & remove all buried flowlines.
3. Remove all fluids from heater treater & stock tanks. Clean out stock tanks.
4. Teardown & remove stock tanks, containment, separator, and heater treater.
5. Remove flare stack and cover flare pit.
6. Dig out around cellar. Remove cellar wall. Cut rat hole conductor at least 3' below surface.
7. Return soil to original condition & reseed when weather permits.



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underlying Assets, will create Value+®



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650
<b>1. TYPE OF WELL</b> Oil Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 12/24/2014  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION             OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Please see the attachment for the change to our previously submitted plugging procedure. The procedure outlines the following: 1. Spot cement from 1700' – 1920' 2. Shoot circulation holes @ 800' 3. Cement 7" casing and 7" x 9 5/8" annulus from 800' to surface.		
<div style="text-align: right;"> <b>Approved by the</b>  <b>Utah Division of</b>  <b>Oil, Gas and Mining</b>   <b>Date:</b> December 23, 2013   <b>By:</b> </div>		
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor
<b>DATE</b> 12/23/2013		



**SEPCO**  
2350 N Sam Houston Pkwy E  
Suite 125  
Houston, Texas 77032  
www.swn.com

## SEPCO STATE 30-23 1-16H

### P&A PROCEDURE

**A F E # 1 0 0 4 0 2 2**

Proc. Date: 12/23/13

796' FSL & 412' FEL  
Sec. 16, T30S, R23W  
San Juan County, UT  
Paradox

MD: 10,105' LL: 1900'  
TVD: 7,920'  
PBSD: 6089' MD Float Collar

**API#: 43-037-50040-0000**  
KB/GL: 22'  
GL: 5877'

### Objective

- ◀ Set surface plugs to finish remainder of plugback
- ◀ Reclaim location & return to its original state

### Current Wellbore Condition

The well was originally drilled as a horizontal targeting the Cane Creek Interval (Paradox Clastic #21). The Cane Creek interval was determined to be non-commercial and the wellbore was used to test Clastic Intervals #19, #9, and the Gothic interval. All intervals have been plugged back at present. Multiple circulation holes were shot in the 7" production casing from 1870 – 1902' in an effort to establish circulation up the 7" x 9 5/8" annulus.

### Casing & Tubing

Surf. Csg: 13-3/8" 54.5# J-55 set @ 1800' MD  
Int. Csg: 9 5/8" 40# P110 set @ 5442' MD  
Prod Csg: 7" 32# P110 set @ 10,043' MD

### Tubular Capacities

13-3/8" 54# J-55	Burst: 2730-psi			
9 5/8" # HCP110	ID: 8.835"	Drift: 8.679"	3.1847 gal/ft	0.0758 bbl/ft
	Burst: 6820 psi	80% Burst: 5456 psi		
7" 32# P110 GBCD	ID: 6.094"	Drift: 5.969"	1.5152 gal/ft	0.0360 bbl/ft
	Burst: 12,460 psi	80% Burst: 9,968 psi		
2 7/8" 6.5# L80 EUE	ID: 2.441	Drift: 2.347	0.2431 gal/ft	0.00579 bbl/ft
	Burst: 10,570 psi	80% Burst: 8,456 psi		
2 7/8" 8.7# P110 PH6	ID: 2.259	Drift: 2.165	0.2082 gal/ft	0.004957 bbl/ft
	Burst: 20,620 psi	80% Burst: 16,496 psi		



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www.swn.com

## **NOTE:**

Modifications of this procedure may be necessary as the job progresses. All changes need to be approved by Engineering.

HSE is the top priority. All service personnel need to be familiar with SEECO HSE policies and practices. Safety meetings should be held prior to any and all work being performed, before each stimulation stage, and noted on the daily reports.

Well control and overall work safety is imperative. In order to assure a safe working environment, the SWN well site supervisor must provide safe and effective leadership, and exercise good judgment. If at any time the WSS feels that a situation is inordinately dangerous and additional measures are required, the WSS will stop the job and confer with the SWN Completion Foreman or the SWN Completion Superintendent before proceeding. Compromising the control of a well or causing unauthorized releases of fluids to the environment is not acceptable. The SWN WSS is responsible for the safe management of the well and location at all times. Unless otherwise authorized by the SWN Completion Foreman, never begin operations without proper onsite supervision. The SWN WSS supervisor should be the first to arrive on location. When the WSS is confident all potential hazards have been secured, he will be the last to leave location.

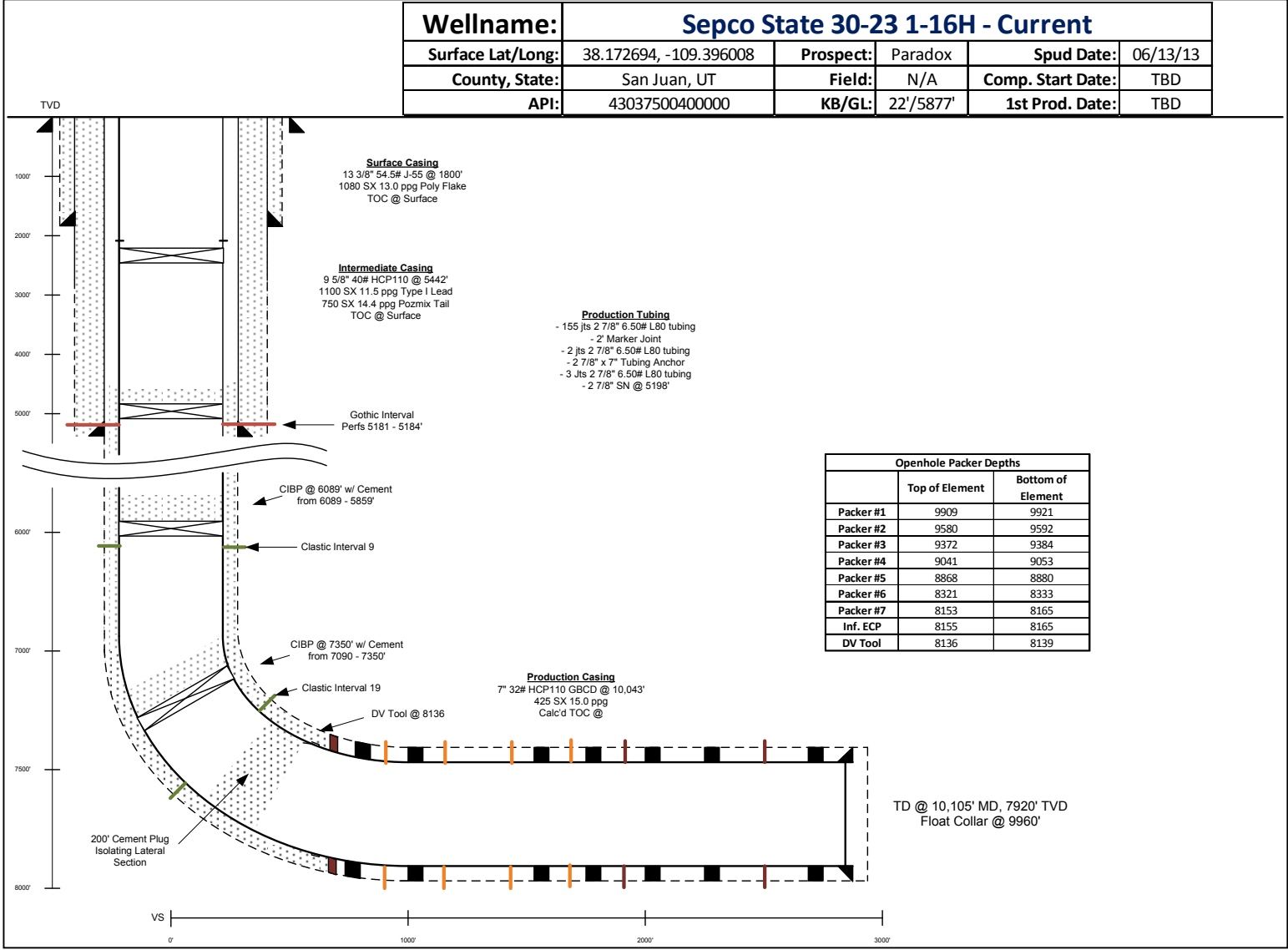


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$R^2$   
 $A \rightarrow V^+$

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## Wellbore Plugging Procedure

1. **Hold pre-job safety meeting before each operation. Ensure all applicable PPE is available, in proper working order, and used as required.**
2. MIRU workover unit, 500 Hp 5K rig pump, & mud tank w/ HP iron. Spot duck ponds/spill containment underneath fluid pump.
3. Check shut-in casing & tubing pressures on wellhead. Ensure well is dead and stable prior to proceeding.
4. ND blind flange of wellhead. NU 7 1/16" 5K x 7 1/16" 5k spool and 7 1/16" 5K dual ram BOP's w/ blind rams on bottom and 2 7/8" pipe rams on top.
5. TIH open ended w/ 2 7/8" workstring to a depth of CIBP @ 1920'. Pick up 1 – 2' off of plug.
6. MIRU cement truck. Spot 40 sx (8 bbls @ 1.15 cf/sk yield) of 15.8 ppg Class G cement from 1700' – 1920'.
7. TOOH while laying down. Allow cement to set overnight.
8. MIRU ELU. Pick up junk basket. RIH and tag top of cement plug @ 1700'. POOH. LD junk basket.
9. Pick up 1' gun loaded w/ four RTG-1562-453 circulation charges. RIH and perforate circulation holes @ 800'. POOH.
10. RU rig pump and establish circulation down 7" casing while taking returns up the 9 5/8" casing. Circulate +/- 22 bbls of 10.0 ppg brine to recover the 14.6 Recovery fluid from the annulus.
11. PUMU 7" 32# CIBP & setting tool. RIH and set CIBP @ 820'. POOH. LD setting tool. RDMO ELU.
12. Coordinate delivery of one load of freshwater for cement mixing. Ensure sugar or other cement retarder is onhand in case large cement returns are seen at surface.
13. RU HES cement equipment. Pressure test lines to 2000 psi. Pump 20 bbls spacer followed by, 280 sks of 15.8 ppg Class G Neat cement (1.15 cf/sk yield + 10% excess)) to spot cement inside and outside of 7" casing from surface to 1902'.
14. Allow cement to set.
15. Dig out around wellhead. Cut off wellhead at least 3' below ground level and weld on abandonment cap with required markings.

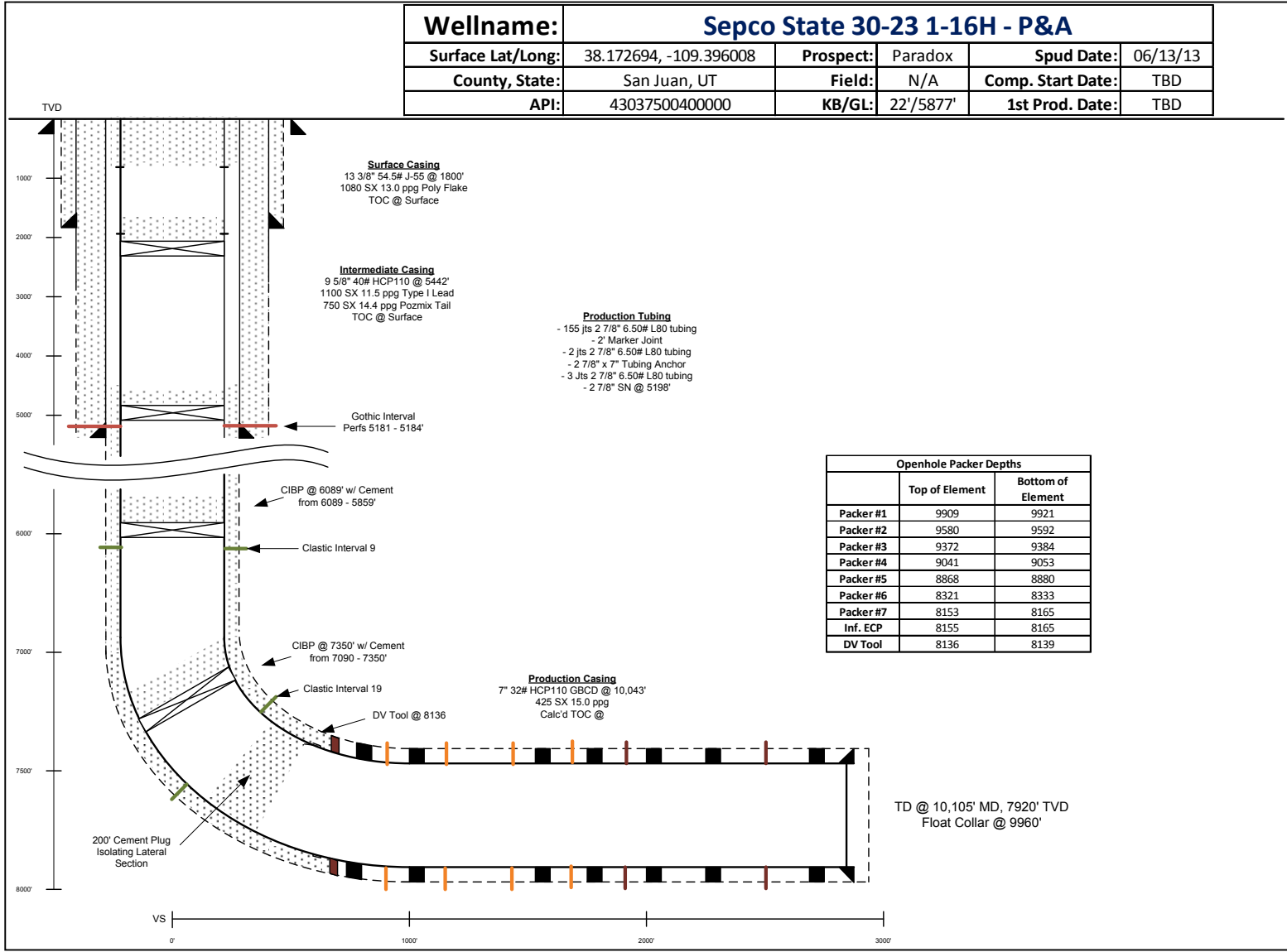


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$R^2 = V^+$   
 $A$

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## Site Reclamation Procedure

1. **Hold pre-job safety meeting before each operation. Ensure all applicable PPE is available, in proper working order, and used as required.**
2. Vacuum all flowlines dry. Excavate & remove all buried flowlines.
3. Remove all fluids from heater treater & stock tanks. Clean out stock tanks.
4. Teardown & remove stock tanks, containment, separator, and heater treater.
5. Remove flare stack and cover flare pit.
6. Dig out around cellar. Remove cellar wall. Cut rat hole conductor at least 3' below surface.
7. Return soil to original condition & reseed when weather permits.



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**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

AMENDED REPORT ☐ FORM 8  
(highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>STATE ML51650</b>	
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR: <b>Southwestern Energy Production Company</b>		7. UNIT or CA AGREEMENT NAME	
3. ADDRESS OF OPERATOR: <b>2350 N Sam Houston Pkwy CITY Houston STATE TX ZIP 77032</b>		8. WELL NAME and NUMBER: <b>SEPSCO STATE 30-23 #1-16H</b>	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>796' FSL &amp; 412' FEL</b>  AT TOP PRODUCING INTERVAL REPORTED BELOW: <b>1475' FSL &amp; 1078' FEL</b>  AT TOTAL DEPTH: <b>2777' FSL &amp; 2349' FEL</b>		9. API NUMBER: <b>4303750040</b>	
14. DATE SPULLED: <b>6/13/2013</b>		10 FIELD AND POOL, OR WILDCAT <b>WILDCAT</b>	
15. DATE T.D. REACHED: <b>7/21/2013</b>		11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SESE 16 30S 23E S</b>	
16. DATE COMPLETED: <b>8/31/2013</b>		12. COUNTY <b>SAN JUAN</b>	
ABANDONED <input checked="" type="checkbox"/> READY TO PRODUCE <input type="checkbox"/>		13. STATE <b>UTAH</b>	
17. ELEVATIONS (DF, RKB, RT, GL):			
18. TOTAL DEPTH: MD <b>10,105</b> TVD <b>7,920</b>		21. DEPTH BRIDGE MD <b>9,930</b> PLUG SET: TVD <b>7,919</b>	
19. PLUG BACK T.D.: MD <b>9,962</b> TVD <b>7,919</b>		20. IF MULTIPLE COMPLETIONS, HOW MANY? *	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) <b>CBL</b>		23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)	

**24. CASING AND LINER RECORD (Report all strings set in well)**

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
17.5	13 3/8	54.5	0	1,802		1080	419	0 CIR	
12.25	9 5/8	40	0	5,442		1850	751	0 CIR	
8.5	7	32	0	10,104	8,147	425	86	3930 CBL	

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 7/8	6,807	6,807						

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) CANE CREEK	8,127	9,946	7,664	7,918	SEE ATTACHMENT			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

WAS WELL HYDRAULICALLY FRACTURED? YES ☐ NO ☒ IF YES -- DATE FRACTURED: \_\_\_\_\_

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
9207' - 9751'	800 gallons of mineral oil
8257' - 8965'	4000 gallons 15% HCl

**29. ENCLOSED ATTACHMENTS:**

☒ ELECTRICAL/MECHANICAL LOGS      ☐ GEOLOGIC REPORT      ☐ DST REPORT      ☒ DIRECTIONAL SURVEY  
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION      ☐ CORE ANALYSIS      ☐ OTHER: \_\_\_\_\_

**30. WELL STATUS:**

**PA**



## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 8/31/2013	TEST DATE: 8/24/2013	HOURS TESTED: 5.5	TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 0	WATER – BBL: 0	PROD. METHOD: swabbing
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE: 8/31/2013	HOURS TESTED: 6.5	TEST PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 0	WATER – BBL: 0	PROD. METHOD: swabbing
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:	TEST DATE:	HOURS TESTED:	TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

N/A

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
HOVENWEEP	5,037	5,101		UPPER ISMAY	4,962
GOTHIC	5,157	5,235		HOVENWEEP	5,037
CLASTIC #9	6,102	6,128		LOWER ISMAY	5,101
CLASTIC #19	7,400	7,435		GOTHIC	5,157
CANE CREEK	8,127	9,946		DESERT CREEK	5,235
				CLASTIC #4	5,285
				CANE CREEK	8,127

## 35. ADDITIONAL REMARKS (Include plugging procedure)

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) Amy Johnson

TITLE Regulatory Supervisor

SIGNATURE

*Amy Johnson*

DATE

5/12/14

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation

- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Box 145801  
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

PERFORATION RECORD

INTERVAL (top/bot - MD)	SIZE	NO. HOLES	PERF STATUS
9745	9751 0.211	30	OPEN
9207	9213 0.211	30	OPEN
8955	8965 0.211	60	OPEN
8686	8692 0.211	36	OPEN
8503	8509 0.211	36	OPEN
8257	8267 0.211	60	OPEN

Robert Case  
1285 Derrick Dr.  
Casper, WY 82604  
Tel. (307) 265-3145  
Fax (307) 265-3150



**Southwestern Energy Company**

**SEPCO State 30-23 #1-16H**

**San Juan County, UT**

**Prepared by: Robert Case**



A Schlumberger Company  
1285 Derrick Dr.  
Casper, WY 82604  
(307) 265-3145

## Directional Survey Certification Form

Southwestern Energy Company  
Company

SEPCO State 30-23 #1-16H  
Well Name

August 22, 2013  
Final Report Date

13FMG0009  
Job Number

San Juan County, UT  
County/State

43-037-50040  
API Number

NAD 27  
Geodetic Datum

Nabors M11  
Rig Contractor / Name

22'  
RKB Height

Type of Surveys

### Measurements While Drilling (MWD)

Survey Depths (Measured Depth)

5365' to 10105'

Survey Dates

07/03/13 to 07/21/13

Persons Performing Surveys

Steve Lejeune  
Chris Wooster  
Jake Newhouse

The data and calculations for this survey have been checked by me and conform to the calibration standards and operational procedures set forth by Pathfinder Energy Services.

I am authorized and qualified to review the data, calculations and this report, and that the report represents a true and correct Directional Survey of this well based on the original data corrected to True North and obtained at the well site. Wellbore coordinates are calculated using the minimum curvature method.

Robert Case  
Engineer In Charge

August 22, 2013  
Date

# PathFinder Energy Services, Inc.

## BHL Report

Page 01/01

Tie-in Date: 07/03/2013

Date Completed: 07/21/2013

SOUTHWESTERN ENERGY COMPANY

SEPCO STATE 30-23 #1-16H

SAN JUAN COUNTY, UT

Rig:NABORS M11

PathFinder Office Supervisor: Dan Harwell

PathFinder Field Engineers:STEVE LEJEUNE

CHRIS WOOSTER

JAKE NEWHOUSE

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:38.10.21.7416 N LON:109.23.43.2204 W

GRID Reference:NAD27 utah south Lambert

Ref GRID Coord: X: 2605010.2588 Y: 555182.6749

North Aligned To:TRUE NORTH

Total Magnetic Correction:10.52° EAST TO TRUE

Vertical Section Plane: 315.73

Survey Vert. Reference: 22.00' Rotary Table To Ground

Altitude:5877.00' Ground To MSL

Measured Depth	10105.00	(feet)
Inclination	90.48	(deg)
Azimuth	315.47	(deg)
True Vertical Depth	7920.70	(feet)
Vertical Section	2770.99	(feet)
Survey X cord	2603073.14	(feet)
Survey Y cord	557164.09	(feet)
Survey Lat	38.17826527 N	(deg)
Survey Lon	109.40192082 W	(deg)
Rectangular Corr. N/S	1981.41 N	(feet)
Rectangular Corr. E/W	1937.12 W	(feet)
Closure Distance	2771.00	(feet)
Direction of Closure	315.65	(deg)
Dogleg Severity	0.00	(deg/100ft)

## PathFinder Energy Services, Inc.

## Survey Report

SOUTHWESTERN ENERGY COMPANY

SEPSCO STATE 30-23 #1-16H

SAN JUAN COUNTY, UT

Rig:NABORS M11

PathFinder Office Supervisor: Dan Harwell

PathFinder Field Engineers: STEVE LEJEUNE

CHRIS WOOSTER

JAKE NEWHOUSE

Survey Calculations by PathCalc v2.03 using Minimum Curvature

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:38.10.21.7416 N LON:109.23.43.2204 W

GRID Reference:NAD27 utah south Lambert

Ref GRID Coord: X: 2605010.2588 Y: 555182.6749

North Aligned To:TRUE NORTH

Total Magnetic Correction:10.52° EAST TO TRUE

Vertical Section Plane: 315.73

Survey Vert. Reference: 22.00' Rotary Table To Ground

Altitude:5877.00' Ground To MSL

Measured Depth	Incl	Drift Dir.	TVD	Course Length	Vertical Section	TOTAL Rectangular Offsets		Survey Latitude	Survey Longitude	Closure Dist Dir		DLS
(ft)	(deg)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(deg)	(deg)	(ft)	(deg)	(dg/100ft)
THE FOLLOWING ARE GYRODATA GYRO SURVEYS.												
100.00	0.15	97.72	100.00	100.00	-0.10	0.01 S	0.13 E	38.17270595 N	109.39533855 W	0.13@	96.24	0.00
200.00	0.13	67.87	200.00	100.00	-0.25	0.01 N	0.36 E	38.17270601 N	109.39533773 W	0.36@	88.26	0.07
300.00	0.12	95.41	300.00	100.00	-0.37	0.04 N	0.57 E	38.17270609 N	109.39533700 W	0.57@	85.62	0.06
400.00	0.13	75.24	400.00	100.00	-0.50	0.06 N	0.79 E	38.17270612 N	109.39533626 W	0.79@	85.43	0.04
500.00	0.15	67.74	500.00	100.00	-0.61	0.14 N	1.02 E	38.17270633 N	109.39533545 W	1.03@	82.09	0.03
600.00	0.16	68.44	600.00	100.00	-0.71	0.24 N	1.27 E	38.17270659 N	109.39533457 W	1.29@	79.19	0.01
700.00	0.07	19.17	700.00	100.00	-0.74	0.35 N	1.42 E	38.17270688 N	109.39533404 W	1.46@	76.09	0.13
800.00	0.11	4.17	800.00	100.00	-0.65	0.50 N	1.45 E	38.17270730 N	109.39533393 W	1.53@	70.75	0.05
900.00	0.03	311.10	900.00	100.00	-0.56	0.62 N	1.43 E	38.17270761 N	109.39533397 W	1.56@	66.68	0.10
1000.00	0.19	330.84	1000.00	100.00	-0.37	0.78 N	1.33 E	38.17270806 N	109.39533431 W	1.54@	59.66	0.16
1100.00	0.20	328.35	1100.00	100.00	-0.04	1.07 N	1.16 E	38.17270887 N	109.39533488 W	1.58@	47.23	0.01
1200.00	0.18	315.71	1200.00	100.00	0.29	1.33 N	0.96 E	38.17270960 N	109.39533556 W	1.64@	35.70	0.05
1300.00	0.17	326.87	1300.00	100.00	0.59	1.57 N	0.77 E	38.17271027 N	109.39533621 W	1.75@	26.05	0.04
1400.00	0.15	319.49	1400.00	100.00	0.86	1.79 N	0.60 E	38.17271089 N	109.39533677 W	1.89@	18.54	0.03
1500.00	0.17	309.30	1500.00	100.00	1.14	1.99 N	0.40 E	38.17271143 N	109.39533745 W	2.03@	11.43	0.03
1600.00	0.09	289.16	1600.00	100.00	1.36	2.11 N	0.21 E	38.17271177 N	109.39533809 W	2.12@	5.77	0.09
1700.00	0.19	304.55	1700.00	100.00	1.59	2.23 N	0.00 E	38.17271212 N	109.39533882 W	2.23@	0.06	0.11
1800.00	0.06	300.89	1800.00	100.00	1.81	2.35 N	0.18 W	38.17271246 N	109.39533944 W	2.36@	355.64	0.13
1900.00	0.19	253.72	1900.00	100.00	1.94	2.33 N	0.38 W	38.17271242 N	109.39534015 W	2.36@	350.66	0.16
2000.00	0.17	259.10	2000.00	100.00	2.09	2.25 N	0.69 W	38.17271223 N	109.39534122 W	2.36@	343.03	0.03
2100.00	0.22	252.15	2100.00	100.00	2.26	2.17 N	1.02 W	38.17271201 N	109.39534237 W	2.39@	334.88	0.06
2200.00	0.15	281.07	2200.00	100.00	2.45	2.13 N	1.33 W	38.17271194 N	109.39534345 W	2.51@	328.11	0.11
2300.00	0.14	278.10	2299.99	100.00	2.66	2.18 N	1.58 W	38.17271207 N	109.39534431 W	2.69@	324.07	0.01
2400.00	0.22	295.49	2399.99	100.00	2.94	2.28 N	1.87 W	38.17271236 N	109.39534533 W	2.95@	320.57	0.10
2500.00	0.24	305.74	2499.99	100.00	3.32	2.48 N	2.21 W	38.17271295 N	109.39534651 W	3.33@	318.25	0.05

# PathFinder Energy Services, Inc.

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
2600.00	0.23	306.14	2599.99	100.00	3.73	2.72 N	2.55 W	38.17271363 N	109.39534764 W	3.73@	316.90	0.01
2700.00	0.17	304.03	2699.99	100.00	4.07	2.92 N	2.83 W	38.17271420 N	109.39534862 W	4.07@	315.91	0.06
2800.00	0.27	304.49	2799.99	100.00	4.45	3.14 N	3.15 W	38.17271481 N	109.39534970 W	4.45@	314.92	0.10
2900.00	0.19	286.92	2899.99	100.00	4.82	3.32 N	3.50 W	38.17271533 N	109.39535092 W	4.83@	313.48	0.11
3000.00	0.29	251.23	2999.99	100.00	5.08	3.29 N	3.90 W	38.17271527 N	109.39535230 W	5.10@	310.13	0.18
3100.00	0.50	266.54	3099.99	100.00	5.47	3.18 N	4.58 W	38.17271501 N	109.39535466 W	5.57@	304.80	0.23
3200.00	0.56	256.13	3199.98	100.00	6.00	3.04 N	5.49 W	38.17271468 N	109.39535784 W	6.27@	298.97	0.11
3300.00	0.55	246.97	3299.98	100.00	6.42	2.73 N	6.40 W	38.17271390 N	109.39536105 W	6.96@	293.11	0.09
3400.00	0.48	239.94	3399.97	100.00	6.70	2.33 N	7.21 W	38.17271285 N	109.39536387 W	7.57@	287.95	0.09
3500.00	0.55	233.65	3499.97	100.00	6.87	1.84 N	7.95 W	38.17271154 N	109.39536652 W	8.16@	283.02	0.09
3600.00	0.48	219.88	3599.97	100.00	6.89	1.23 N	8.61 W	38.17270992 N	109.39536884 W	8.70@	278.16	0.14
3700.00	0.30	232.74	3699.96	100.00	6.88	0.75 N	9.09 W	38.17270863 N	109.39537054 W	9.12@	274.74	0.20
3800.00	0.76	203.52	3799.96	100.00	6.66	0.01 S	9.56 W	38.17270656 N	109.39537225 W	9.56@	269.93	0.52
3900.00	1.07	190.20	3899.95	100.00	5.87	1.54 S	9.99 W	38.17270239 N	109.39537386 W	10.11@	261.24	0.37
4000.00	1.14	189.11	3999.93	100.00	4.73	3.44 S	10.31 W	38.17269719 N	109.39537513 W	10.87@	251.55	0.07
4100.00	0.92	187.22	4099.91	100.00	3.64	5.22 S	10.57 W	38.17269232 N	109.39537617 W	11.79@	243.72	0.22
4200.00	0.92	194.26	4199.90	100.00	2.72	6.79 S	10.87 W	38.17268802 N	109.39537733 W	12.82@	237.99	0.11
4300.00	0.66	204.64	4299.89	100.00	2.10	8.10 S	11.31 W	38.17268447 N	109.39537896 W	13.91@	234.40	0.30
4400.00	0.75	210.88	4399.88	100.00	1.72	9.18 S	11.88 W	38.17268153 N	109.39538104 W	15.02@	232.31	0.12
4500.00	0.79	211.99	4499.87	100.00	1.39	10.33 S	12.58 W	38.17267843 N	109.39538357 W	16.28@	230.63	0.04
4600.00	0.82	210.88	4599.86	100.00	1.04	11.53 S	13.32 W	38.17267518 N	109.39538621 W	17.61@	229.12	0.03
4700.00	0.87	198.14	4699.85	100.00	0.51	12.86 S	13.92 W	38.17267155 N	109.39538842 W	18.95@	227.26	0.19
4800.00	0.92	200.32	4799.84	100.00	-0.19	14.34 S	14.44 W	38.17266753 N	109.39539032 W	20.34@	225.20	0.06
4900.00	0.97	194.44	4899.83	100.00	-0.97	15.91 S	14.93 W	38.17266325 N	109.39539215 W	21.81@	223.17	0.11
5000.00	1.13	194.38	4999.81	100.00	-1.93	17.68 S	15.38 W	38.17265840 N	109.39539387 W	23.44@	221.02	0.16
5100.00	1.02	199.71	5099.79	100.00	-2.83	19.48 S	15.93 W	38.17265351 N	109.39539591 W	25.16@	219.27	0.15
5200.00	1.00	200.36	5199.78	100.00	-3.59	21.13 S	16.53 W	38.17264901 N	109.39539814 W	26.83@	218.03	0.02
5300.00	0.74	194.16	5299.77	100.00	-4.30	22.58 S	16.99 W	38.17264507 N	109.39539986 W	28.26@	216.97	0.28

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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
** TIED IN TO GYRODATA GYRO SURVEY AT 5365'MD.												
5365.00	0.78	156.74	5364.76	65.00	-4.94	23.39 S	16.92 W	38.17264283 N	109.39539967 W	28.87@	215.88	0.75
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.												
5532.00	0.97	114.32	5531.74	167.00	-7.31	25.02 S	15.18 W	38.17263826 N	109.39539376 W	29.26@	211.25	0.39
5626.00	0.79	120.47	5625.73	94.00	-8.68	25.67 S	13.90 W	38.17263638 N	109.39538935 W	29.19@	208.43	0.22
5722.00	0.97	108.34	5721.72	96.00	-10.04	26.26 S	12.56 W	38.17263467 N	109.39538473 W	29.11@	205.55	0.27
5817.00	1.06	94.28	5816.70	95.00	-11.41	26.58 S	10.92 W	38.17263369 N	109.39537905 W	28.74@	202.33	0.28
5912.00	1.23	83.29	5911.69	95.00	-12.69	26.53 S	9.03 W	38.17263373 N	109.39537248 W	28.02@	198.80	0.29
6008.00	1.23	71.60	6007.66	96.00	-13.77	26.08 S	7.03 W	38.17263482 N	109.39536548 W	27.01@	195.08	0.26
6103.00	1.67	69.49	6102.63	95.00	-14.77	25.28 S	4.76 W	38.17263690 N	109.39535755 W	25.72@	190.67	0.47
6198.00	1.49	63.61	6197.60	95.00	-15.71	24.24 S	2.36 W	38.17263959 N	109.39534911 W	24.36@	185.56	0.25
6294.00	2.11	66.15	6293.55	96.00	-16.71	22.97 S	0.37 E	38.17264291 N	109.39533950 W	22.98@	179.07	0.65
6389.00	2.20	56.14	6388.48	95.00	-17.65	21.25 S	3.49 E	38.17264744 N	109.39532854 W	21.53@	170.68	0.41
6485.00	2.29	47.96	6484.41	96.00	-18.06	18.94 S	6.44 E	38.17265361 N	109.39531808 W	20.00@	161.22	0.35
6580.00	1.93	48.31	6579.34	95.00	-18.20	16.60 S	9.05 E	38.17265986 N	109.39530884 W	18.91@	151.42	0.38
6676.00	1.41	43.74	6675.30	96.00	-18.24	14.68 S	11.07 E	38.17266503 N	109.39530165 W	18.38@	142.97	0.56
6771.00	1.76	31.79	6770.27	95.00	-17.84	12.59 S	12.65 E	38.17267065 N	109.39529601 W	17.85@	134.88	0.50
6852.00	1.85	35.13	6851.23	81.00	-17.30	10.46 S	14.05 E	38.17267640 N	109.39529095 W	17.52@	126.67	0.17
6884.00	1.67	35.39	6883.21	32.00	-17.12	9.66 S	14.62 E	38.17267857 N	109.39528891 W	17.53@	123.46	0.56
6916.00	3.25	333.78	6915.19	32.00	-16.18	8.47 S	14.49 E	38.17268186 N	109.39528927 W	16.78@	120.30	8.94
6947.00	6.24	318.58	6946.08	31.00	-13.66	6.42 S	12.99 E	38.17268758 N	109.39529434 W	14.49@	116.29	10.38
6979.00	9.85	312.51	6977.76	32.00	-9.19	3.26 S	9.82 E	38.17269644 N	109.39530511 W	10.35@	108.37	11.57
7011.00	13.63	311.90	7009.08	32.00	-2.69	1.11 N	4.99 E	38.17270873 N	109.39532155 W	5.11@	77.48	11.82
7043.00	17.06	313.39	7039.94	32.00	5.76	6.85 N	1.23 W	38.17272489 N	109.39534273 W	6.96@	349.85	10.79
7075.00	19.43	313.57	7070.33	32.00	15.77	13.75 N	8.50 W	38.17274426 N	109.39536747 W	16.16@	328.28	7.41
7106.00	21.81	312.86	7099.34	31.00	26.68	21.22 N	16.45 W	38.17276527 N	109.39539456 W	26.85@	322.21	7.72
7138.00	24.18	312.95	7128.79	32.00	39.16	29.73 N	25.61 W	38.17278920 N	109.39542573 W	39.24@	319.26	7.41
7170.00	26.91	313.39	7157.66	32.00	52.95	39.17 N	35.67 W	38.17281574 N	109.39545998 W	52.98@	317.68	8.55



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Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
7202.00	29.28	312.95	7185.89	32.00	68.00	49.48 N	46.66 W	38.17284472 N	109.39549740 W	68.01@	316.68	7.43
7234.00	31.48	312.69	7213.49	32.00	84.16	60.48 N	58.53 W	38.17287565 N	109.39553782 W	84.16@	315.94	6.89
7265.00	33.15	314.18	7239.69	31.00	100.72	71.87 N	70.56 W	38.17290768 N	109.39557876 W	100.72@	315.53	5.97
7297.00	35.17	315.06	7266.17	32.00	118.68	84.49 N	83.35 W	38.17294312 N	109.39562223 W	118.69@	315.39	6.50
7329.00	37.37	315.33	7291.97	32.00	137.61	97.93 N	96.69 W	38.17298082 N	109.39566757 W	137.62@	315.37	6.89
7361.00	39.66	315.59	7317.01	32.00	157.54	112.13 N	110.66 W	38.17302068 N	109.39571506 W	157.54@	315.38	7.17
7393.00	42.21	315.59	7341.18	32.00	178.50	127.11 N	125.33 W	38.17306270 N	109.39576490 W	178.51@	315.40	7.97
7425.00	44.41	314.97	7364.46	32.00	200.45	142.70 N	140.78 W	38.17310647 N	109.39581740 W	200.45@	315.39	7.00
7456.00	46.52	315.15	7386.20	31.00	222.55	158.34 N	156.39 W	38.17315037 N	109.39587045 W	222.55@	315.36	6.82
7488.00	48.63	314.62	7407.79	32.00	246.16	175.01 N	173.12 W	38.17319716 N	109.39592735 W	246.17@	315.31	6.71
7520.00	50.65	314.80	7428.51	32.00	270.54	192.16 N	190.45 W	38.17324533 N	109.39598626 W	270.55@	315.26	6.33
7552.00	52.50	315.24	7448.40	32.00	295.61	209.89 N	208.17 W	38.17329511 N	109.39604649 W	295.62@	315.24	5.88
7584.00	54.26	315.15	7467.49	32.00	321.29	228.12 N	226.27 W	38.17334625 N	109.39610801 W	321.30@	315.23	5.50
7616.00	56.10	314.80	7485.76	32.00	347.56	246.68 N	244.85 W	38.17339837 N	109.39617118 W	347.57@	315.21	5.82
7648.00	58.12	314.71	7503.13	32.00	374.42	265.60 N	263.93 W	38.17345149 N	109.39623605 W	374.44@	315.18	6.32
7679.00	60.06	314.62	7519.06	31.00	401.01	284.30 N	282.85 W	38.17350398 N	109.39630037 W	401.03@	315.15	6.26
7711.00	62.26	315.15	7534.49	32.00	429.04	304.08 N	302.71 W	38.17355951 N	109.39636788 W	429.06@	315.13	7.03
7743.00	64.63	315.33	7548.80	32.00	457.66	324.40 N	322.86 W	38.17361656 N	109.39643638 W	457.68@	315.14	7.42
7775.00	67.01	315.33	7561.90	32.00	486.85	345.16 N	343.38 W	38.17367482 N	109.39650612 W	486.87@	315.15	7.44
7806.00	69.29	315.33	7573.44	31.00	515.62	365.62 N	363.61 W	38.17373224 N	109.39657486 W	515.65@	315.16	7.35
7838.00	71.58	315.50	7584.15	32.00	545.77	387.10 N	384.77 W	38.17379250 N	109.39664678 W	545.80@	315.17	7.17
7870.00	72.63	315.76	7593.99	32.00	576.22	408.86 N	406.07 W	38.17385357 N	109.39671913 W	576.25@	315.20	3.37
7902.00	73.07	315.94	7603.42	32.00	606.80	430.80 N	427.37 W	38.17391512 N	109.39679148 W	606.82@	315.23	1.48
7934.00	73.42	315.85	7612.65	32.00	637.44	452.81 N	448.69 W	38.17397685 N	109.39686392 W	637.46@	315.26	1.13
7965.00	73.78	316.03	7621.40	31.00	667.18	474.18 N	469.37 W	38.17403679 N	109.39693417 W	667.20@	315.29	1.29
7997.00	74.04	315.85	7630.27	32.00	697.92	496.27 N	490.75 W	38.17409877 N	109.39700680 W	697.94@	315.32	0.98
8028.00	74.39	316.12	7638.70	31.00	727.75	517.72 N	511.48 W	38.17415895 N	109.39707720 W	727.77@	315.35	1.41
8061.00	74.74	315.94	7647.48	33.00	759.56	540.62 N	533.57 W	38.17422316 N	109.39715222 W	759.58@	315.38	1.18

# PathFinder Energy Services, Inc.

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8093.00	75.10	315.94	7655.81	32.00	790.46	562.82 N	555.05 W	38.17428545 N	109.39722520 W	790.47@	315.40	1.13
8124.00	75.53	316.20	7663.67	31.00	820.45	584.42 N	575.86 W	38.17434602 N	109.39729586 W	820.46@	315.42	1.61
8156.00	76.77	316.12	7671.33	32.00	851.52	606.83 N	597.38 W	38.17440888 N	109.39736895 W	851.53@	315.45	3.88
8188.00	78.88	316.20	7678.08	32.00	882.79	629.39 N	619.04 W	38.17447215 N	109.39744253 W	882.80@	315.47	6.60
8220.00	81.07	316.91	7683.65	32.00	914.30	652.26 N	640.71 W	38.17453630 N	109.39751609 W	914.31@	315.51	7.18
8251.00	82.83	317.00	7687.99	31.00	944.99	674.70 N	661.66 W	38.17459917 N	109.39758719 W	944.99@	315.56	5.68
8283.00	84.42	317.43	7691.54	32.00	976.78	698.04 N	683.26 W	38.17466458 N	109.39766049 W	976.78@	315.61	5.15
8315.00	86.17	317.79	7694.17	32.00	1008.65	721.59 N	704.76 W	38.17473057 N	109.39773341 W	1008.65@	315.68	5.58
8323.00	86.17	317.77	7694.70	8.00	1016.63	727.50 N	710.12 W	38.17474713 N	109.39775161 W	1016.63@	315.69	0.25
8354.00	87.14	317.79	7696.51	31.00	1047.55	750.42 N	730.92 W	38.17481133 N	109.39782213 W	1047.55@	315.75	3.13
8418.00	88.02	318.03	7699.21	64.00	1111.45	797.87 N	773.78 W	38.17494425 N	109.39796748 W	1111.45@	315.88	1.43
8514.00	87.76	316.53	7702.75	96.00	1207.35	868.35 N	838.86 W	38.17514176 N	109.39818830 W	1207.36@	315.99	1.58
8609.00	87.67	316.99	7706.53	95.00	1302.26	937.50 N	903.89 W	38.17533562 N	109.39840904 W	1302.28@	316.05	0.49
8705.00	89.52	318.52	7708.89	96.00	1398.16	1008.54 N	968.41 W	38.17553464 N	109.39862785 W	1398.20@	316.16	2.50
8800.00	90.04	317.91	7709.25	95.00	1493.07	1079.38 N	1031.71 W	38.17573301 N	109.39884246 W	1493.14@	316.29	0.84
8896.00	89.34	317.64	7709.77	96.00	1589.01	1150.46 N	1096.22 W	38.17593216 N	109.39906127 W	1589.11@	316.38	0.78
8991.00	86.26	315.77	7713.42	95.00	1683.91	1219.55 N	1161.31 W	38.17612583 N	109.39928222 W	1684.02@	316.40	3.79
9086.00	84.86	316.13	7720.77	95.00	1778.62	1287.62 N	1227.16 W	38.17631678 N	109.39950592 W	1778.73@	316.38	1.52
9182.00	83.10	314.79	7730.84	96.00	1874.08	1355.66 N	1294.12 W	38.17650772 N	109.39973347 W	1874.19@	316.33	2.30
9277.00	78.88	313.30	7745.72	95.00	1967.85	1420.88 N	1361.54 W	38.17669093 N	109.39996284 W	1967.92@	316.22	4.70
9302.00	78.70	313.27	7750.58	25.00	1992.35	1437.70 N	1379.39 W	38.17673819 N	109.40002361 W	1992.41@	316.19	0.73
9398.00	75.80	312.31	7771.76	96.00	2085.85	1501.30 N	1448.09 W	38.17691704 N	109.40025757 W	2085.87@	316.03	3.17
9492.00	71.31	311.18	7798.37	94.00	2175.76	1561.32 N	1515.33 W	38.17708596 N	109.40048673 W	2175.76@	315.86	4.91
9586.00	69.20	312.42	7830.12	94.00	2264.02	1620.28 N	1581.29 W	38.17725189 N	109.40071149 W	2264.02@	315.70	2.57
9681.00	72.90	314.67	7860.97	95.00	2353.78	1682.18 N	1646.38 W	38.17742584 N	109.40093305 W	2353.78@	315.62	4.49
9776.00	75.36	315.54	7886.95	95.00	2445.15	1746.91 N	1710.87 W	38.17760753 N	109.40115227 W	2445.15@	315.60	2.74
9808.00	76.41	315.84	7894.75	32.00	2476.18	1769.11 N	1732.55 W	38.17766983 N	109.40122593 W	2476.18@	315.60	3.40
9839.00	77.65	316.28	7901.71	31.00	2506.39	1790.87 N	1753.51 W	38.17773084 N	109.40129713 W	2506.39@	315.60	4.23

# PathFinder Energy Services, Inc.

## Survey Report

SOUTHWESTERN ENERGY COMPANY  
 SEPCO STATE 30-23 #1-16H  
 SAN JUAN COUNTY, UT  
 RIG:NABORS M11

Page 06/06

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Survey Latitude (deg)	Survey Longitude (deg)	Closure Dist Dir (ft) (deg)		DLS (dg/100ft)
9853.00	78.70	316.66	7904.58	14.00	2520.09	1800.80 N	1762.95 W	38.17775870 N	109.40132918 W	2520.09@	315.61	7.96
9884.00	81.07	316.64	7910.02	31.00	2550.60	1822.99 N	1783.90 W	38.17782091 N	109.40140030 W	2550.60@	315.62	7.65
9916.00	82.92	316.75	7914.48	32.00	2582.28	1846.05 N	1805.63 W	38.17788555 N	109.40147408 W	2582.29@	315.63	5.79
9947.00	85.12	316.50	7917.71	31.00	2613.11	1868.46 N	1826.80 W	38.17794838 N	109.40154597 W	2613.11@	315.65	7.14
9978.00	86.61	315.86	7919.94	31.00	2644.03	1890.77 N	1848.21 W	38.17801094 N	109.40161868 W	2644.03@	315.65	5.23
10032.00	90.48	315.47	7921.31	54.00	2698.00	1929.37 N	1885.93 W	38.17811925 N	109.40174684 W	2698.00@	315.65	7.20
STRAIGHT LINE PROJECTION TO BIT DEPTH AT 10105' MD.												
10105.00	90.48	315.47	7920.70	73.00	2770.99	1981.41 N	1937.12 W	38.17826527 N	109.40192082 W	2771.00@	315.65	0.00

\*\* The survey data at tie-in point was furnished by a recognized survey company and entered as submitted. Survey stations above the tie-in point represent recalculated data by PathFinder Energy Services, Inc. and may reflect minor changes due to rounding differences between survey programs. Only survey stations taken by qualified PathFinder personnel are subject to certification.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML51650			
<b>1. TYPE OF WELL</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> SOUTHWESTERN ENERGY PRODUCTION COMPANY		<b>7. UNIT or CA AGREEMENT NAME:</b>			
<b>3. ADDRESS OF OPERATOR:</b> 2350 N Sam Houston Pkwy E, Suite 125, Houston, TX, 77032		<b>8. WELL NAME and NUMBER:</b> SEPCO STATE 30-23 #1-16H			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0796 FSL 0412 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SESE Section: 16 Township: 30.0S Range: 23.0E Meridian: S		<b>9. API NUMBER:</b> 43037500400000			
<b>PHONE NUMBER:</b> 281 618-7414 Ext		<b>9. FIELD and POOL or WILDCAT:</b> WILDCAT			
<b>COUNTY:</b> SAN JUAN		<b>STATE:</b> UTAH			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>5/13/2014</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input checked="" type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input checked="" type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. Please see the attached reclamation procedure.					
<b>Accepted by the Utah Division of Oil, Gas and Mining</b> June 12, 2014  <b>Date:</b> _____ <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Amy Johnson		<b>PHONE NUMBER</b> 281 618-7414			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Supervisor			
<b>DATE</b> 5/12/2014					

## Final Reclamation Plan

Southwestern Energy Production Company

SEPCO State 30-23 #1-16H

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### Background:

Southwestern Energy Production Company has previously drilled the SEPCO State 30-23 #1-16H on state surface and mineral in San Juan County, Utah and intends to complete final reclamation of the site following successful plugging of the well bore and favorable surface and weather conditions. The reserve pit has previously been sampled and closed following UDOGM approval leaving only the pad area and access road requiring final reclamation treatments.

### Reclamation Procedure:

Reclamation of the entire pad area and access road will be required and will commence immediately after well bore plugging is complete and favorable surface and weather conditions exist. Following is the proposed final reclamation procedure for the SEPCO State 30-23 #1-16H:

- a. All debris and waste materials will be contained and removed from the site.
- b. The site and access road will be restored as nearly practical to its original condition. Cut and fill slopes will be reduced and graded to conform to the adjacent terrain.
- c. Drainages will be reestablished and temporary erosion control structures installed to prevent erosion to the until vegetation is established.
- d. The abandonment marker will be installed at least four feet above ground level as specified by UDOGM and shall be inscribed with the following: operator name, lease number, well name and surveyed description (township, range, section and either quarter-quarter or footage).
- e. After final grading and before the replacement of topsoil, the entire surface of the site shall be scarified to eliminate slippage surfaces and to promote root penetration. Topsoil will then be spread over the site to achieve an approximate uniform, stable thickness consistent with the established contours.
- f. All reclaimed areas will be drill seeded with the following seed mix (drill seeding to be utilized at this site to maximize reclamation success):

Hatch Point area Seed Mix: 12 lbs/acre

- |   |                |
|---|----------------|
| • Sand dropseed – <i>Sporobolus cryptandurs</i>     | (3 lbs / acre) |
| • Fourwing Saltbush – <i>Atriplex canescens</i>     | (3 lbs / acre) |
| • Needle and Thread Grass – <i>Stipa comata</i>     | (4 lbs / acre) |
| • Indian Rice Grass – <i>Achnatherum himenoides</i> | (4 lbs / acre) |
- g. A fence will be constructed around the drill site and access road to minimize grazing and recreational use until the required reclamation standards are successfully achieved. The

fence will then be removed following re-vegetation.

- h. In general, the disturbed areas will be considered adequately re-vegetated when at least 90 percent of the original ground cover is re-established over 90 percent of the seeded area, within two years of planting, consisting of seeded and desirable species.
- i. No noxious weeds will be allowed on the site; they must be treated as they occur. The operator would monitor and treat weeds within the reclaimed area or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the County Extension Office.
- j. The operator is responsible for maintenance of reclamation facilities such as fences, barricades and temporary drainage structures until the desired reclaimed conditions are achieved. If the desired ground cover is not established at the end of each 3 year period, an analysis of why the areas has not recovered will be performed by the operator and additional treatment and seeding may be required based on the results of the analysis.
- k. Reclaimed areas receiving incidental disturbance during the reclamation period would be re-contoured and reseeded as soon as practical.